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April 1997

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Don't look at Page 25, Dell! My girlfriend wrote on it – in Debbish language!

LETTER FROM THE EDITORS

Simply by picking up this magazine, even if you've never bought an issue, you've revealed yourself as a member of an elite puzzle-solving group. There are solvers who love only words, defining them and manipulating them to reach the highest possible score. Then there are solvers like us, who like logical thinking and numbers, who bask in the pleasure of figuring out the correct answer to a puzzle, no matter how long it takes. There are no high, higher, or highest scores, there's just the right answer or a wrong answer, and for many of us that's a very comforting feeling in this sometimes-crazy world. Isn't it nice to know that, for some problems, there's exactly ONE correct answer, and YOU found it?

You don't have to be Einstein or Sherlock Holmes to solve, either. Advanced math degrees are not required. While some puzzles do assume a certain amount of basic math knowledge, it's perfectly acceptable to look up unfamiliar terms in the dictionary (although most will be explained right in the puzzle directions). You don't have to know algebra, although you might solve some puzzles more quickly if you do.

No, to solve the 15 Logic Problems, 20 Cross Sums, 10 Figure Logics, and 45 Word Arithmetics in this issue you only need a clear head, basic addition and subtraction skills, a pencil, and maybe a thinking cap. And you'll find a full range of difficulty to suit your mood from easy through challenger: The puzzles get harder as you progress through the magazine. You'll find puzzles that take only a minute or two to solve, and some at the back that will take a couple of hours.

And as you work your way through, you'll be discovering some of the most-popular puzzles in the world. Bingo Plays, Sum Logic, Trigons, Math Mazes, Numberama, Deduction Problems, Collectibles, Number Place and many more are all here! Each requires some degree of effort to get to the right answer — and some of the harder ones might take a leap of faith during solving to discover that there really IS an answer (but we promise, there is!). It is our intent, and our hope, that each and every puzzle in these pages will provide you with that burst of triumph when you reach the solution.

Don't forget to take a minute (or five) and let us know what you think about the magazine and the puzzles. We really do count on hearing from you, the solver, to help us to continue to provide the world's best math and logic solving fun. Write to us at:

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the Editors

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LOGIC PROBLEM

1. THE "ALICE" PARTY

by David Champlin

Last Halloween, the head of the English Literature department at Megalopolis University threw a costume party for all of his faculty and graduate students. Each was invited to come dressed as his or her favorite character in English literature. By a strange coincidence, the first four professors to arrive all came dressed as characters from "Alice In Wonderland"; no two, luckily, dressed as the same character (one was The Mock Turtle). From this information and the clues below, can you determine the full name of each guest (one first name is Dana, and one last name is Hamamoto), the character each dressed as, and the order in which the four arrived at the party?

1. The first four arrivals were, in no particular order, Susan, Professor Martinez, the one dressed as the Caterpillar, and the second to arrive.
2. Henry arrived immediately before the one dressed as the White Rabbit, who arrived just before Professor Ames.
3. The woman dressed as the Queen of Hearts arrived just before Professor Waters, who arrived immediately before Chris.

Solution is on page 61.

If you care to use the chart below in solving this Problem, you do so by entering all the information obtained from the clues using, perhaps, an X to indicate a definite "no" and a dot to show a definite "yes." Remember: Once you enter a definite "yes" (dot), place a "no" (X) in all the rest of the boxes in each row and column that contains the dot.

	Ames	Hamamoto	Martinez	Waters	Cater.	Queen	Rabbit	Turtle	1	2	3	4
Chris												
Dana												
Henry												
Susan												
1												
2												
3												
4												
Caterpillar												
Mock Turtle												
Queen of Hearts												
White Rabbit												

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Need help solving Logic Problems, Word Arithmetic, Diagramless Crosswords, Cryptograms, or Cross Sums? Why not send for free leaflets that offer detailed instructions and helpful hints on how to solve these puzzles. Just write to the appropriate department (LP for Logic Problems, WA for Word Arithmetic, D for Diagramless, C for Cryptograms, and XS for Cross Sums), enclosing a stamped, self-addressed envelope (long-letter size, please) for each leaflet wanted. Write to: Department —, Dell Puzzle Magazines, 1270 Avenue of the Americas, New York, N. Y., 10020.

FIGURE LOGIC 1

Solve Figure Logic by completing some simple arithmetic problems, which will enable you to move from clue to clue through the puzzle. You will not always be able to complete an entire number at first, but you may be able, by logic, to determine what one or more of the digits must be. If you enter those digits into the diagram, they may help you to solve other clues, and you can eventually return to the unfinished numbers and finally complete them.

NOTE: A square of a number is that number multiplied by itself. For example, the square of 6 is 36 (6 x 6 = 36).

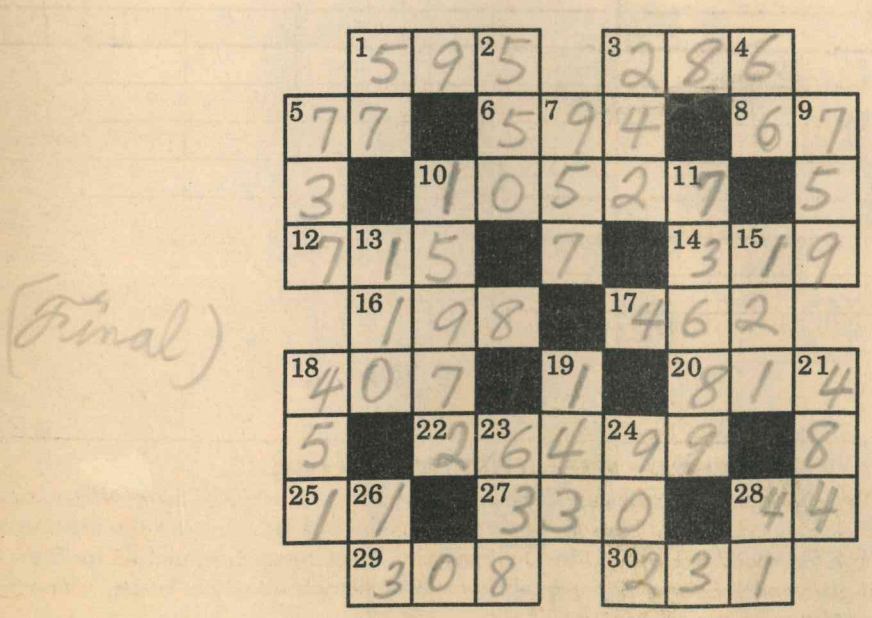
A starting help is given on page 65.

ACROSS

1. One more than 6-Across
3. Two times 19-Down
5. One-third of 30-Across
6. Three times 16-Across
8. Ten more than 1-Down
10. 25-Across times 7-Down
12. Five times 19-Down
14. 16-Across plus 15-Down
16. Three times 4-Down
17. Two times 30-Across
18. 5-Down minus 27-Across
20. Two times 18-Across
22. 10-Across plus 10-Down
25. One-seventh of 5-Across
27. Three times 13-Down
28. Four times 25-Across
29. Four times 5-Across
30. 13-Down plus 15-Down

DOWN

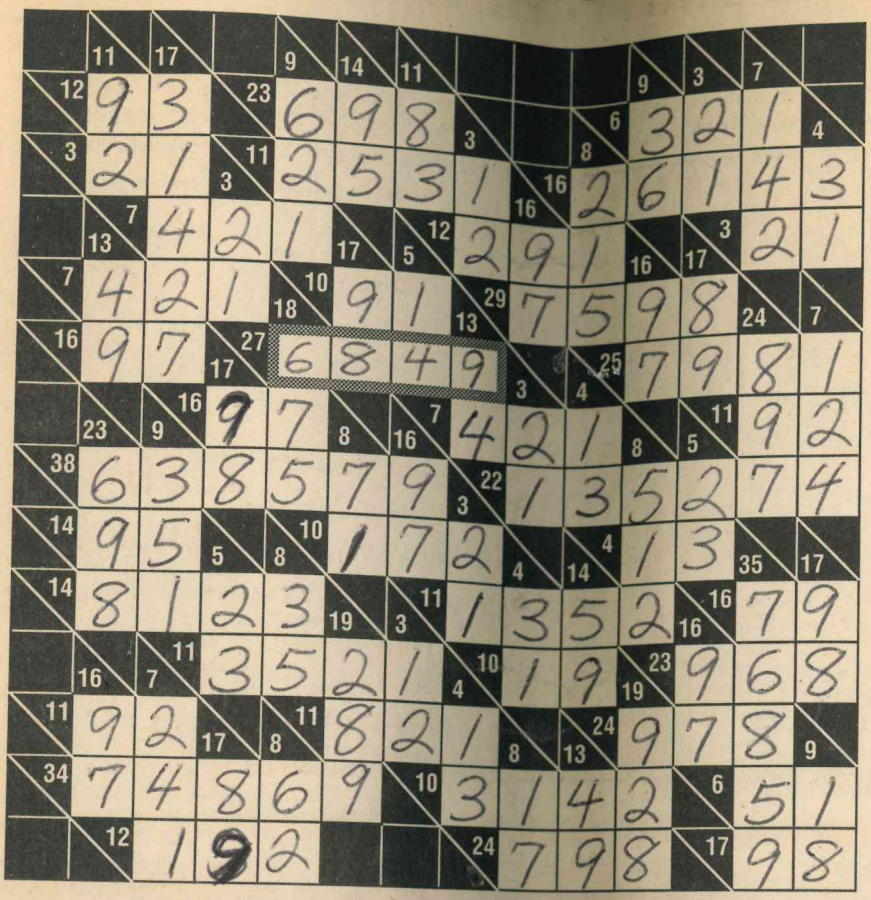
1. 28-Across plus 26-Down
2. 18-Across plus 19-Down
3. Two times 15-Down
4. One less than 8-Across
5. 8-Across times 25-Across
7. Three times 14-Across
9. 7-Down minus 16-Across
10. 3-Down times 4-Down
11. Seven times 10-Across
13. 28-Across plus 4-Down
15. 5-Across plus 28-Across
18. 25-Across times 28-Down
19. 25-Across times 26-Down
21. Two times 3-Down
23. Two times 14-Across
24. Two times 18-Down
26. Two more than 25-Across
28. Three less than 28-Across



(Final)

Solution is on page 60

CROSS SUMS

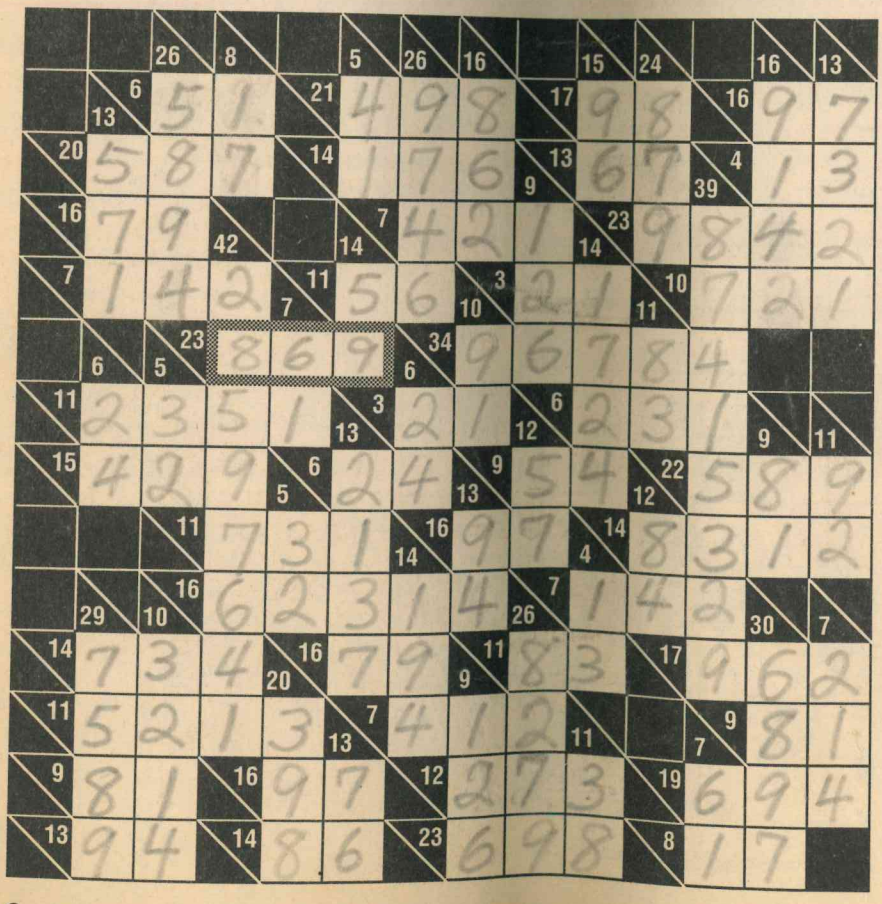


NUMBER 1

In Cross Sums puzzles, the numbers in the black squares refer to the SUMS of the digits which you are to fill into the empty spaces. The number ABOVE the diagonal line refers to the empty spaces directly to the RIGHT of that number. A number BELOW the diagonal line refers to the empty spaces directly BELOW that number.

No zeros are used here, only the digits one through nine. An important point: A digit cannot appear more than once in any particular digit combination. We have outlined one area in each diagram. If you need help starting a puzzle, the digit combination to go into its area is listed on page 65.

Solutions are on page 59.



NUMBER 2

WORD ARITHMETIC

These are long-division problems in which letters are substituted for numbers. Solve the problem; determine the number value of each letter; and, when the letters in each one have been arranged in order from 0 to 9, they will spell out a word or words.

Solutions are on page 65.

1.

0 1 2 3 4 5 6 7 8 9

```
          ROUT
    ┌──────────
DRUGS │ GROUNDED
      DRUGS
      ─────
       STNTD
       TONRT
       ─────
       REPEEE
       RODPNN
       ──────
        UEGTSD
        UUPTNO
        ──────
        UGPOO
```

2.

0 1 2 3 4 5 6 7 8 9

```
          ACT
    ┌──────────
LURE │ DOLLARS
     DADSU
     ─────
      DCRAR
      EOECO
      ─────
       RCUOS
       RDAAO
       ─────
        AED
```

3.

0 1 2 3 4 5 6 7 8 9

```
          OLD
    ┌──────────
DIGS │ CHILLS
     DIGS
     ────
      NADL
      ICON
      ────
      OLOCS
      OOOLI
      ─────
       OGLL
```

4.

0 1 2 3 4 5 6 7 8 9

```
          DAY
    ┌──────────
SWIM │ LAMPLIT
     LYYDM
     ─────
      DTYLI
      DAPYM
      ─────
       YDTIT
       SWIM
       ────
        AYMT
```

5.

0 1 2 3 4 5 6 7 8 9

```
          SAT
    ┌──────────
TEE │ SALAMI
    TEE
    ───
     AGGM
     STSP
     ────
      HIMI
      HETE
      ────
       ES
```

6.

0 1 2 3 4 5 6 7 8 9

```
          SUN
    ┌──────────
FLUE │ RELISH
     RLHF
     ────
      NEUS
      FLUE
      ────
      SNYIH
      SFULS
      ─────
       SRIU
```

7.

0 1 2 3 4 5 6 7 8 9

```
          LIT
    ┌──────────
LOT │ GARAGE
    AYGL
    ────
     ATTG
     AGIO
     ────
      IALE
      IRFY
      ────
       RIT
```

8.

0 1 2 3 4 5 6 7 8 9

```
          SET
    ┌──────────
GUESS │ STITCHES
      IOGSUU
      ──────
       ESSOEE
       TEDDCS
       ──────
        TTICUS
        UDCIIH
        ──────
         DOSCS
```

9.

0 1 2 3 4 5 6 7 8 9

```
          ARE
    ┌──────────
PAD │ TRUMP
    UEA
    ───
     DDM
     PAD
     ───
      AMHP
      ARMC
      ────
       APP
```

LOGIC PROBLEM

2. THE BAKE SALE

by Mary A. Powell

The parents of the Busy Beavers Pre-Schoolers held a bake sale this year to raise funds for field trips. Because there are a lot of Busy Beavers this year, there were a lot of baked goodies donated for the sale. Of course, the parents each baked items they considered easiest. The Burns family and three others hate making pies, so they buy home-made pies whenever they can find them and never donate pies to bake sales. At this sale, these four families each bought two pies. From the following clues, can you find what each family donated (one made cookies), and the two kinds of pies each bought?

1. The Baker family, the family who bought the pumpkin pie, and the family who bought the peach pie each bought muffins donated by the fourth family.
2. The Cooke family didn't buy the pecan pie.
3. The family that bought both the cherry pie and the lemon meringue pie was not the one that donated the cake.
4. The Stovers, who bought muffins, didn't buy the pumpkin pie.
5. The family who donated freshly baked bread was neither the Bakers nor the family who bought the coconut cream pie.
6. The family who donated the cake didn't buy the peach pie.
7. The family who bought the apple pie didn't buy the banana cream pie, coconut cream pie, or muffins.

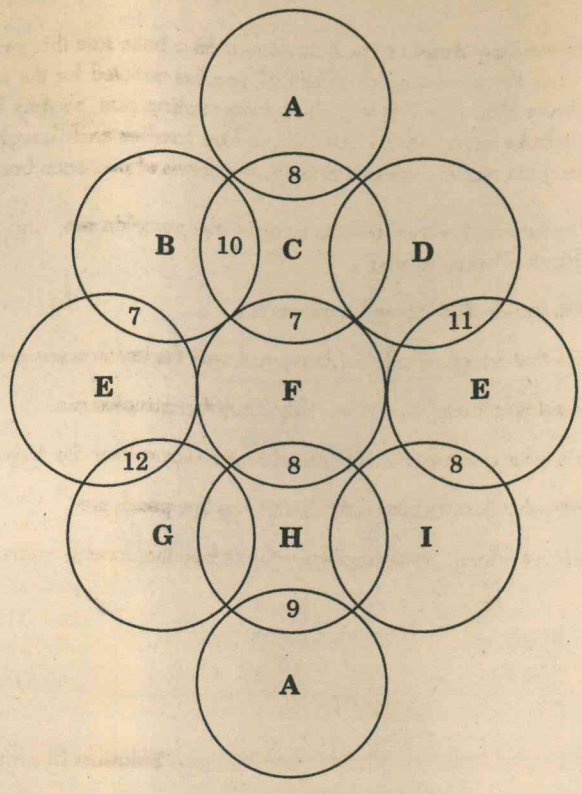
Solution is on page 61.

	Bakers	Burns	Cookes	Stovers	bread	cake	cookies	muffins
apple								
banana								
cherry								
coconut								
lemon mer.								
peach								
pecan								
pumpkin								
bread								
cake								
cookies								
muffins								

CIRCLE MATH

The diagram to the right is composed of overlapping circles, each identified by a letter. Each letter has a different number value from 1 through 9. Where some circles overlap, there is a number: this number is the SUM of the values of the letters in the overlapping circles. Can you figure out the correct number value for each letter?

Answer is on page 58.



DEDUCTION PROBLEM 1

GRANDMA'S BRAG BOOK

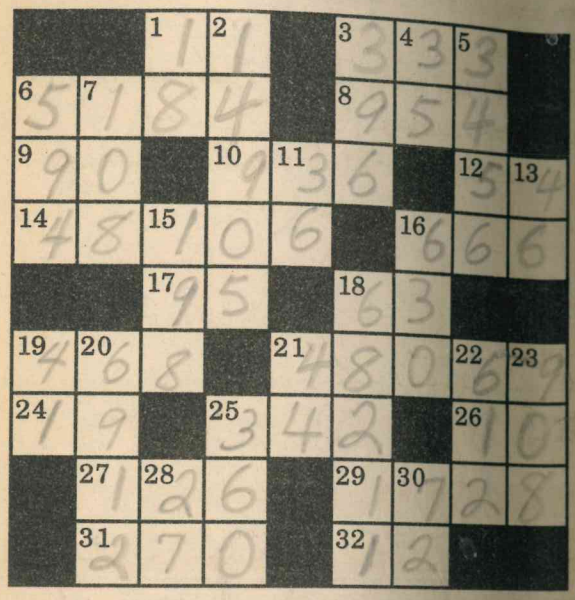
Grandma's Brag Book is bursting with photos of her four grandchildren. All four are different ages, the youngest seven and the oldest ten. Each of the first four pages of her book contains a photo of a different child (including Vicki and Bill) in a special outfit (one is dressed in a Halloween costume). From this and the clues below, can you determine for which child is featured on what page, that child's age, and the outfit each is wearing?

1. The girl in the choir robe is two years older than Teddy.
2. Gina's photo is on the page before the child in the scout uniform and the page after the seven-year-old boy.
3. The boy in the soccer uniform is two years younger than the girl on the following page.
4. The boys' photos are on consecutive pages; neither boy is the oldest child.

Answer is on page 65.

FIGURE LOGICS 2 & 3

Directions for solving Figure Logics are on page 7.
If you need help starting these puzzles, starting helps are on page 65.

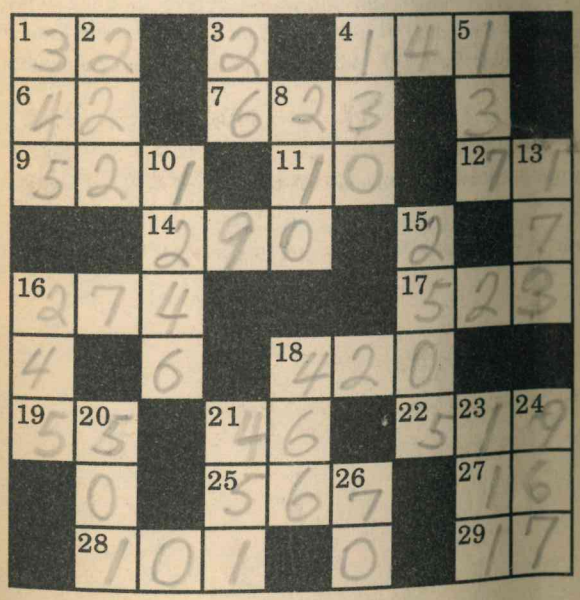


ACROSS

1. One more than 26-Across
3. One-half of 16-Across
6. 30-Down squared
8. 6-Down plus 25-Down
9. 13-Down plus 21-Down
10. Two times 19-Across
12. Three times 1-Down
14. The digits of 7-Down and 13-Down scrambled
16. 31-Across plus 3-Down
17. 12-Across plus 19-Down
18. The digits of 11-Down reversed
19. 16-Across minus 15-Down
21. The digits of 9-Across and 19-Across scrambled
24. One more than 1-Down
25. 10-Across minus 6-Down
26. 13-Down minus 11-Down
27. 12-Across plus 30-Down
29. One-fourth of 20-Down
31. Three times 9-Across
32. One-third of 11-Down

DOWN

1. One-fifth of 9-Across
2. The digits of 8-Across and 26-Across scrambled
3. Two times 15-Down
4. Sixty less than 17-Across
5. Consecutive digits
6. 1-Across times 12-Across
7. Eight hundred less than 23-Down
11. Two times 1-Down
13. 24-Across plus 28-Down
15. One-third of 6-Down
16. 18-Across times 26-Across
18. The digits of 1-Down and 22-Down scrambled
19. Three less than 21-Down
20. Two times 5-Down
21. 18-Across minus 24-Across
22. 8-Across minus 25-Across
23. 8-Across minus 13-Down
25. 26-Across times 11-Down
28. One-half of 12-Across
30. Six times 32-Across



ACROSS

1. Six more than 3-Down
4. 12-Across plus 26-Down
6. 1-Across plus 11-Across
7. One hundred more than 17-Across
9. 18-Across plus 28-Across
11. Six less than 27-Across
12. One more than 26-Down
14. 16-Across plus 27-Across
16. Two times 5-Down
17. Two more than 9-Across
18. Two times 8-Down
19. 12-Across minus 27-Across
21. Four more than 6-Across
22. 16-Across plus 16-Down
25. Four hundred less than 24-Down
27. One-half of 1-Across
28. 19-Across plus 21-Across
29. The digits of 12-Across reversed

DOWN

1. 25-Across minus 2-Down
2. Two times 23-Down
3. Nine more than 29-Across
4. Five times 3-Down
5. Seven more than 4-Down
8. Three times 26-Down
10. Two times 7-Across
13. One-third of 22-Across
15. Five times 20-Down
16. One hundred less than 1-Down
18. 25-Across minus 28-Across
20. Twenty less than 9-Across
21. 9-Across minus 26-Down
23. 11-Across plus 28-Across
24. 18-Down plus 20-Down
26. Seven times 11-Across

Solutions are on page 60

A wormy talking flute?

SENTENCE TEASER

TENNIS, ANYONE?

During the Great Ludo Tennis Tournaments, it was noted that:

A. All the players over sixteen won at least one game.

B. The players who were chosen for the championship game had all won more than three games.

C. Only players under sixteen played in the doubles tournament.

D. All the players who won more than three games were over sixteen.

Considering these facts, which of the statements below are true and which are false?

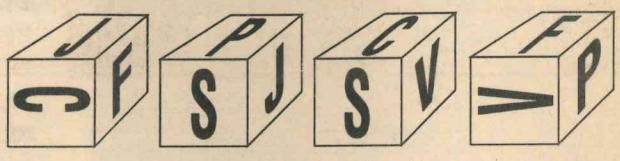
1. Margot, who is fifteen, was selected for the championship.
2. Bernard and his son Tom (who is fourteen) won and lost exactly the same number of games.
3. Nick played both in the championship and the doubles tournament.
4. Christian (who is twenty-five) won five matches, yet was not selected for the championship.

Answers are on page 63.

TWISTER

To the right are four different views of the same toy alphabet block, rotated into different positions. Three of the views are related, but the fourth is "odd man out." Can you determine which doesn't belong with the others and why?

Answer is on page 58.



A. B. C. D.

DEDUCTION PROBLEM 2

FOOTBALL FEAST

Ed had five friends over last weekend for an afternoon of watching football. During halftime, all six went out to the kitchen and fixed a sandwich, choosing from six items that Ed had prepared. Can you figure out what each man had in his sandwich?

1. Each man had a different number of items, and every item was used by a different number of men.
2. More people chose beef than mustard.
3. Carl chose two items more than Bill, who chose two items more than Fred.
4. More people chose ham than mayo, which was chosen by more people than cheese.
5. Al, Bill, and Carl all had cheese but no pickles, while Don had neither.

Solution is on page 65.

LOGIC PROBLEM

3. TWEET TREATS

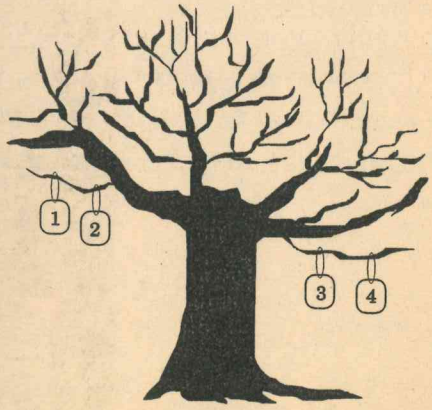
by Mary Marks Cezus

Robin Byrd is an avid observer of wildlife. She encourages the birds and other animals to feed in her yard by putting bread, seeds, and other treats in her trees and other places around her yard. Just this morning she hung four special treats from the branches of the flowering crab tree outside her kitchen window. The birds soon flocked to the tree to check out the new goodies. Robin snapped a photo when a different type of bird was perched on each of the treats. The birds' plumage and the ribbons from which the treats hung made for a colorful shot. Each of the treats was shaped like a different object, and no two treats had the same color ribbon. Using the clues below, can you determine for each position the kind of bird eating the treat, the shape of the treat, and the color of the ribbon?

1. The woodpecker was on a treat to the left of the treat shaped like a roller skate; the woodpecker's treat was not tied with the yellow ribbon.
2. The treat tied with the burgundy ribbon was to the right of the treat shaped like a telephone.
3. The chickadee was not eating the treat shaped like a roller skate.
4. The nuthatch (which was not eating the treat shaped like an elephant) was on a treat which was to the left of the treat tied with the navy ribbon; the stagecoach-shaped treat was not tied with the navy ribbon.
5. The treat tied with the white ribbon was to the right of the treat the blue jay was eating.
6. The chickadee was not eating the elephant-shaped treat (which was not tied with the burgundy ribbon).

Solution is on page 61.

	chickadee	jay	nuthatch	wood.	coach	elephant	phone	skate	burgundy	navy	white	yellow
1												
2												
3												
4												
burgundy												
navy												
white												
yellow												
coach												
elephant												
phone												
skate												



CROSS SUMS

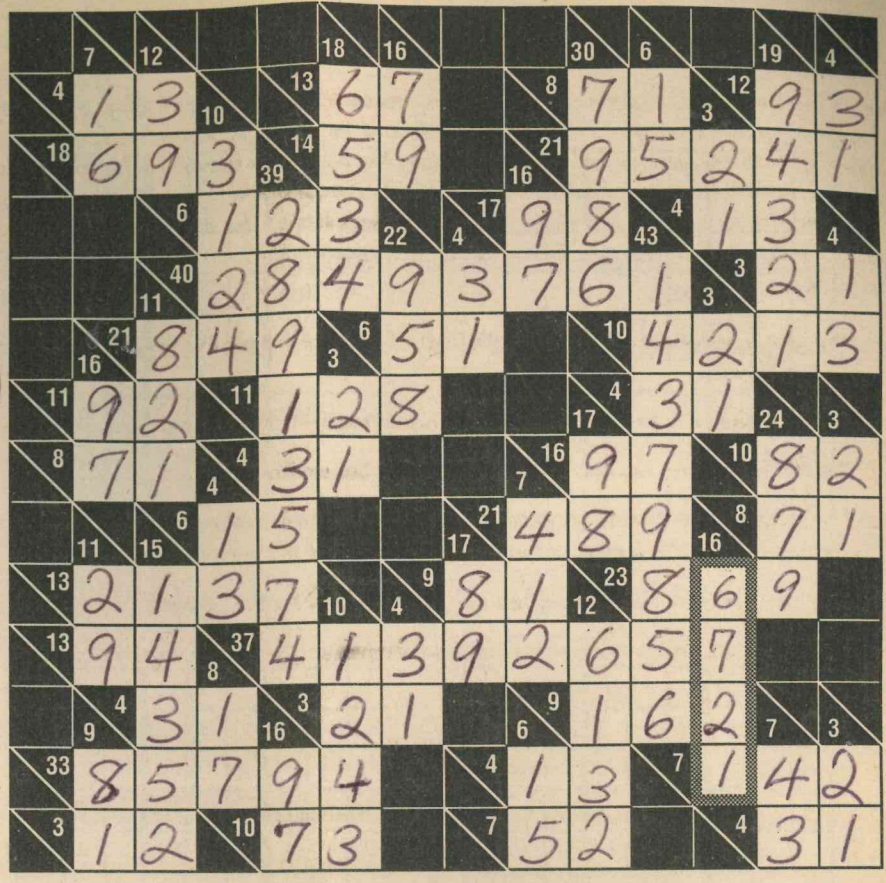
(3-4-all)

NUMBER 3

If you need help starting a puzzle, the digit combination to go into its outlined area is listed on page 65.

(Done in Las Vegas-tip)

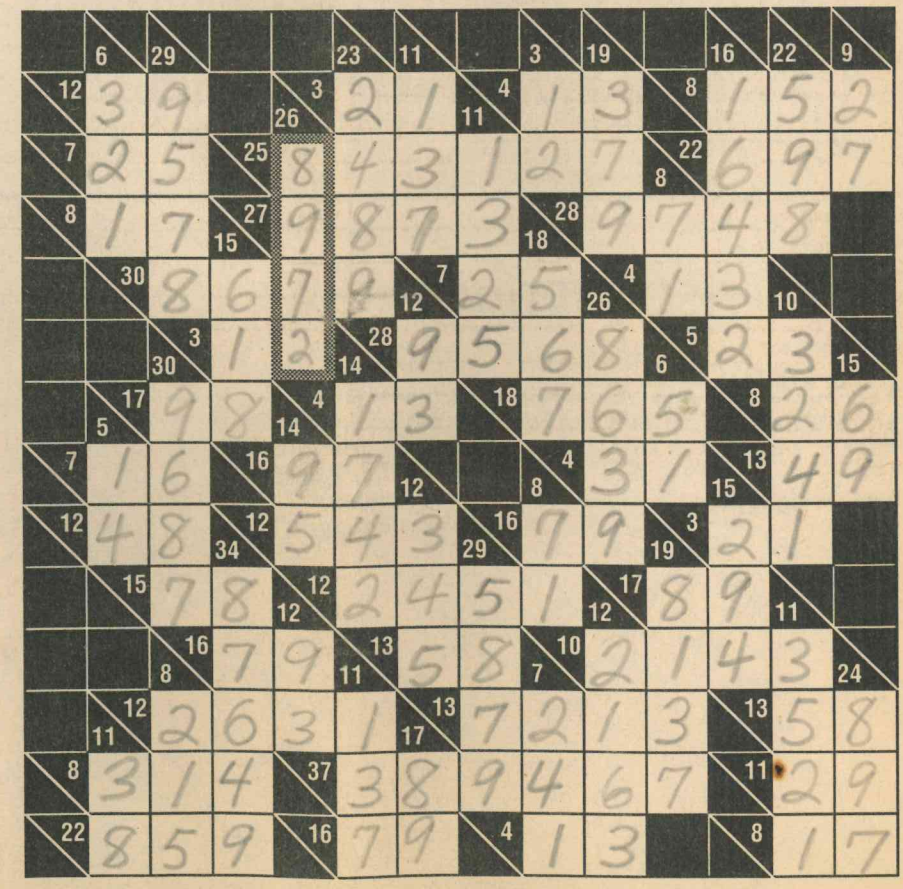
Don't mention Twinkies!



See page 8 for solving directions.

Solutions are on page 59.

NUMBER 4



NUMBER PLACE

In these puzzles, your job is to place a number into each box so that each row across, each column down, and each small 9-box square within the larger square (there are 9 of these) will contain each number 1 through 9. Remember that no number may appear more than once in any row, column, or 9-box square; this will help you solve the puzzle.

Solutions are on page 60.

1.

3	7	2	1	4	9	8	6	5
4	1	8	6	7	5	9	2	3
5	6	9	2	8	3	1	4	7
7	3	4	9	1	6	5	8	2
1	9	5	3	2	8	6	7	4
8	2	6	4	5	7	3	9	1
6	8	7	5	3	4	2	1	9
2	4	3	8	9	1	7	5	6
9	5	1	7	6	2	4	3	8

2.

8	4	2	9	5	3	6	7	1
6	9	3	1	7	8	5	4	2
1	5	7	2	4	6	3	8	9
3	2	1	5	6	4	8	9	7
7	6	4	8	1	9	2	5	3
9	8	5	3	2	7	4	1	6
4	1	9	6	3	5	7	2	8
2	7	6	4	8	1	9	3	5
5	3	8	7	9	2	1	6	4

These are not mean, MARA!

3.

2		1	6				9	
	3			1		2		6
5				4	8	1		
	7				2	9	5	
		2	3		7			8
6	8			9			3	
	5		7			4		1
7		8			1			9
		4	5	2			8	

4.

1	4	3	9	8	6	5	2	7
9	8	2	5	7	1	3	4	6
6	5	7	4	2	3	9	1	8
2	9	5	8	1	4	7	6	3
8	1	6	2	3	7	4	9	5
7	3	4	6	9	5	1	8	2
4	6	1	3	5	8	2	7	9
3	2	8	7	4	9	6	5	1
5	7	9	1	6	2	8	3	4

5.

9				7	3	2		
		3		4		1	6	
	1	5	6					7
5				2			7	3
		1	4		8			5
3	2				6	4		
	3	8			7		1	
6			3	1			9	
	9		8			7		4

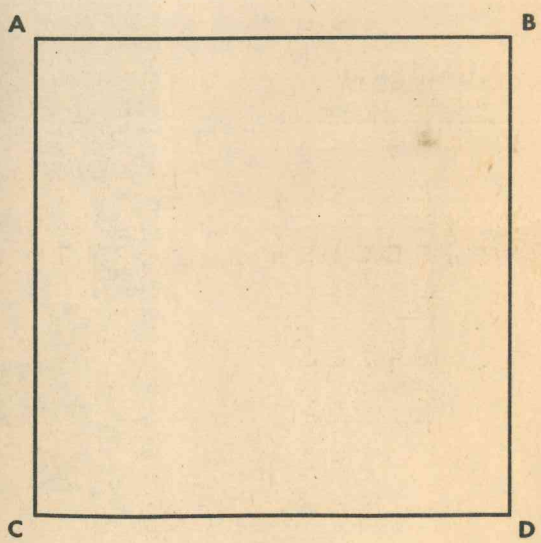
6.

7	4	6	1	3	9	2	5	8
9	3	5	7	8	2	6	1	4
1	2	8	4	5	6	3	7	9
4	7	1	8	6	3	9	2	5
8	5	2	9	1	7	4	3	6
3	6	9	5	2	4	1	8	7
2	9	3	6	7	5	8	4	1
6	8	7	3	4	1	5	9	2
5	1	4	2	9	8	7	6	3

ISO-METRICS

This puzzle will give your brain a workout! Divide the square to the right into the fewest possible pieces in such a way that each piece is an isosceles triangle (a triangle with two equal sides), none of the triangles have a right angle, and no two pieces are identical.

Solution is on page 58.



WORD ARITHMETIC

Solving directions are on page 9. Solutions are on page 65.

10. MONEYTALKS

0 1 2 3 4 5 6 7 8 9

```
          ONE
    ┌─────────
TAKE│ ASSETS
    TAKE
    OEOMT
    OOEAA
     OLESS
     OLMYS
      ETM
```

11. LATESPRING

0 1 2 3 4 5 6 7 8 9

```
          AIRS
    ┌─────────
ELSE│ PERIGEE
    ELSE
     TETSG
     TAELA
      AGSNE
      ANTPN
       ATTPE
       ATAIT
         NA
```

12. FORGIVABLE

0 1 2 3 4 5 6 7 8 9

```
          GIRL
    ┌─────────
BOA │ RIVIERA
    ROIL
     GFAE
     RLAI
      RFVR
      OIGR
       ARFA
       VBRL
         IBL
```

13.

0 1 2 3 4 5 6 7 8 9

```
          EKE
    ┌─────────
GAG │ ENGAGE
    HGBA
     KETG
     NGJU
      EBNE
      HGBA
       BBU
```

14. LONGSTREAK

0 1 2 3 4 5 6 7 8 9

```
          TAN
    ┌─────────
SEA │ NEATER
    NGKL
     GKTE
     GANS
      OGGR
      KTR
       GAL
```

15. SAMEOLDCRY

0 1 2 3 4 5 6 7 8 9

```
          ODE
    ┌─────────
LEA │ MODELS
    MAMO
     EEYL
     EARD
      MSYS
      ALYE
       OYC
```

16. RETAILSHOP

0 1 2 3 4 5 6 7 8 9

```
          ALE
    ┌─────────
TORE│ POLISH
    OIRA
     EILES
     EIRRL
      LEEH
      TORE
       TAES
```

17.

0 1 2 3 4 5 6 7 8 9

```
          ROB
    ┌─────────
RATE│ TWISTER
    IRSJW
     ERBTE
     EAWJI
      EOSIR
      ESIWS
       IEAB
```

18.

0 1 2 3 4 5 6 7 8 9

```
          NO
    ┌─────────
NIB │ BANKS
    BPPB
     AAJS
     ASKB
      CSO
```

LOGIC PROBLEM

4. A TAXING LAST DAY

by Lydian Davis

I. L. Taykitall glanced at the clock. In just a few more minutes, his retirement from the most thankless job in the world — handing out hard-to-find tax forms for the IRS — would be official! He scowled at his last five customers, including Ben E. Fitt, who'd managed to slip through the door before it was locked for the night. Then a slow smile replaced the frown as Taykitall daydreamed about the joys of retirement — moving to a warmer climate, sleeping late, traveling, solving puzzles, swimming, golf, tennis... But enough of this reverie! Taykitall turned back to his job, handing each of the taxpayers the one form he or she needed. From the clues below, can you find each customer's name, profession (one was a salesperson), requested form (including the YME), and place in line?

1. The engineer was in line immediately before the one looking for form SQEZ, who was immediately before Si Moleon.
2. Neither the teacher nor the engineer needed the CZ form.
3. Taykitall mentally ranked the five taxpayers from most polite to surliest as follows: the third person, the one looking for form USRP, Sal A. Ree, the teacher, and the manager who was seeking form XTORT.
4. P. Nutts wasn't the one who needed the SQEZ form.
5. The nurse was in line immediately before Hy Proffett, who was immediately before the one seeking form CZ.

Solution is on page 61.

	Fitt	Moleon	Nutts	Proffett	Ree	engineer	manager	nurse	sales.	teacher	CZ	SQEZ	USRP	XTORT	YME
1															
2															
3															
4															
5															
CZ															
SQEZ		X				X									
USRP															
XTORT															
YME															
engineer															
manager															
nurse															
sales.															
teacher															

Are you okay, Sandie? (No, it's not spelled in Detroit.)

FIGURE LOGIC 4

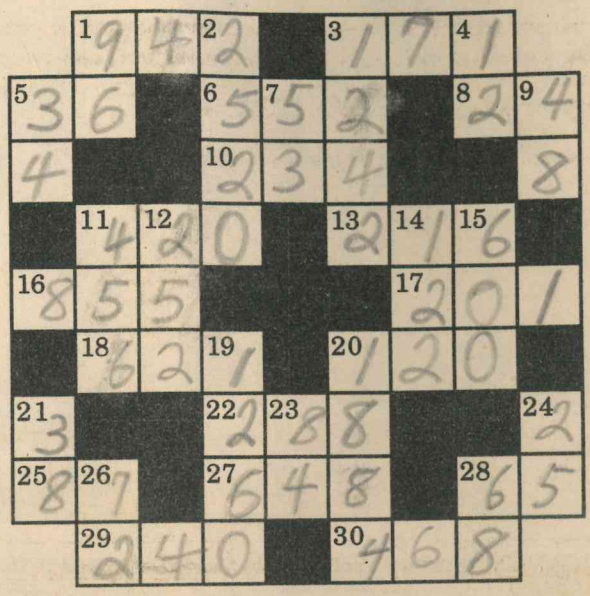
Directions for solving Figure Logics are on page 7. If you need help starting this puzzle, a help is on page 65.

ACROSS

1. 16-Across plus 25-Across
3. 25-Across plus 23-Down
5. One-half of 26-Down
6. 1-Down plus 11-Down
8. Two times 4-Down
10. One-half of 30-Across
11. Five times 23-Down
13. Six times 5-Across
16. Five times 3-Across
17. Thirty more than 3-Across
18. 16-Across minus 10-Across
20. Ten times 4-Down
22. Four times 26-Down
25. Three more than 23-Down
27. Three times 13-Across
28. Seven less than 26-Down
29. Ten times 8-Across
30. 13-Across plus 12-Down

DOWN

1. Eight times 4-Down
2. Six times 11-Across
3. Two times 18-Across
4. One-seventh of 23-Down
5. Ten more than 8-Across
7. 28-Across minus 4-Down
9. Two times 8-Across
11. 4-Down times 21-Down
12. One-fifth of 19-Down
14. Two more than 20-Across
15. 8-Across times 24-Down
19. One-half of 2-Down
20. Two times 1-Across
21. Ten less than 9-Down
23. 5-Across plus 9-Down
24. One more than 8-Across
26. One-third of 13-Across
28. Two times 5-Down



Solution is on page 60

CROSS NUMBERS

The idea of Cross Numbers is to arrive at the figures given at the bottom and right-hand column of the diagram by following the arithmetic signs in the order they are given (that is, from left to right and top to bottom). Use only the numbers above the diagram to complete its blank squares. **Solutions are on page 60.**

1. 1 2 3 4 5 6 7 8 9

4	+	9	X	2	26
+		÷		+	
8	−	3	X	6	30
÷		X		+	
1	+	5	X	7	42
12		15		15	

2. 1 2 3 4 5 6 7 8 9

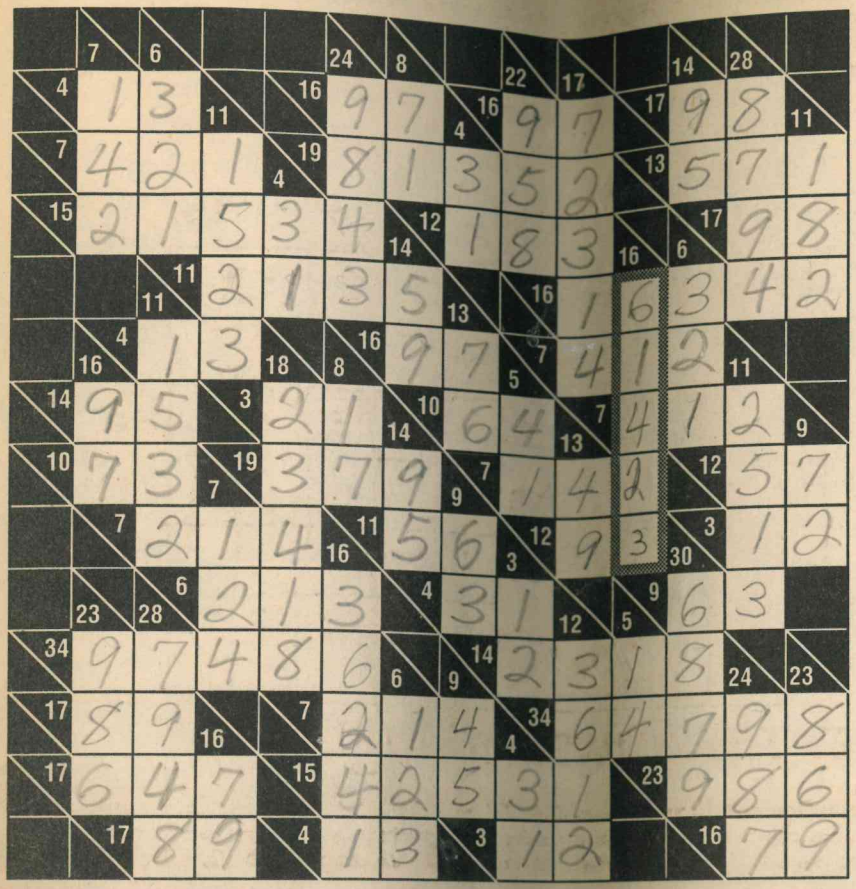
2	X	7	÷	1	14
X		−		+	
6	−	3	X	5	15
+		X		+	
8	÷	4	+	9	11
20		16		15	

3. 1 2 3 4 5 6 7 8 9

5	−	2	X	7	21
+		+		+	
4	X	9	÷	6	6
X		+		+	
3	+	1	X	8	32
27		12		21	

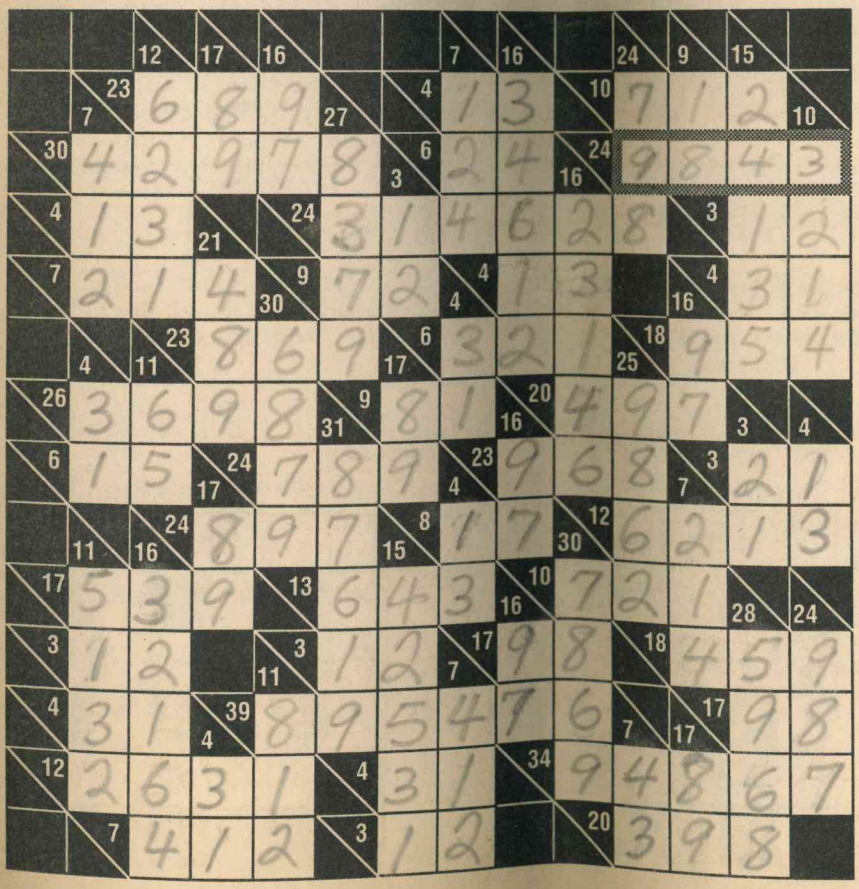
They are not meows, MARA!

CROSS SUMS



NUMBER 5

If you need help starting a puzzle, the digit combination to go into its outlined area is listed on page 65.



See page 8 for solving directions.

Solutions are on page 59.

NUMBER 6

SUM LOGIC

The object here is to place the numbers surrounding the diagram into its empty boxes in such a way that the five numbers in each row, each column, and each of the two diagonals add up to the given number. Numbers cannot be repeated within a row, column, or diagonal. HANDICAP: Each number must be placed in one of the boxes of the row or column outside which it now appears.

Solution is on page 60.

1. 86

	14	32	5	15	17	
18				23		26
24	10					18
19			10			21
11					27	19
31		3				20
	15	14	29	4	5	

2. 78

	23	13	3	4	18	
29				5		14
8	19					15
2			5			30
16					2	21
30		25				16
	6	17	33	23	13	

BY THE NUMBERS

Each letter in a By the Numbers puzzle represents a digit from 0 to 9. In each individual puzzle, every time a specific letter is used, it stands for the same digit. When a digit already appears in a puzzle, none of the letters in that puzzle will represent that same digit. Thus A, B, and C in the first puzzle cannot stand for 0, 2, 4, 8, or 9.

Answers are on page 58.

1.

```
  A B 8 C
+ 4 0 A C
---------
9 4 B 2
```

A = _____

B = _____

C = _____

2.

```
  8 A B C
+ D B C 2
---------
A 3 8 B 2
```

A = _____

B = _____

C = _____

D = _____

HEXAGONY

Using every sixth number from –20 to 70 (as shown below), can you fill in the blank squares in such a way that the four numbers in each row, column, and diagonal, as well as the four center squares and the four squares in each quarter of the diagram add up to 100?

Solution is on page 65.

	46		
			-14

–20	–14	– 8	–2	4	10	16	22
28	34	40	46	52	58	64	70

LOGIC PROBLEM

5. THE *TITANIC* DISCOVERED!

by Georgina Sil

49°57'W, 41°44'N in the North Atlantic Ocean — this is the site of the *Titanic*, sunk in 1912, and located finally in 1985 by Woods Hole oceanographer Dr. Robert Ballard. Danger to divers as much as preserving the dignity of the great ship propelled legislation banning treasure-hunting on the ghostly liner. Undersea photos and videos showed the *Titanic* severed in two, decks partly collapsed from impact, with its contents strewn unceremoniously across a mile-wide debris field. From the information below, match the five items described from the debris field with the ship's room and deck each originated from, and determine the condition of each item as revealed by undersea cameras.

1. The three First Class premises are the First-Class Stateroom, the Aft Grand Staircase, and the First-Class Dining Room. These three areas contained the item from the Promenade Deck, the grill for the leaded-glass window, and the bent item.
2. Two items were affected by marine biology: Wood-boring mollusks dined on one item (this was not the item from the First-Class Stateroom or the item from the Boat Deck), while iron-eating bacteria left another item shrouded in delicate "rusticles."
3. The Saloon Deck, which did not house First-Class Staterooms, did not contain the bent item.
4. The ship's safe, which came from the Purser's Office, did not originate from the Poop Deck or the Bridge Deck. The carved newel post did not originate from the First-Class Dining Room.
5. The steering telemotor pedestal for the ship's wheel was not among the items found partly buried or affected by marine biology. The item from the Promenade Deck, which was not the space heater, was found neither intact nor partly buried.
6. The Purser's Office, which is not on the Saloon Deck, contained one of the items affected by marine biology. The Docking Bridge, which is on neither the Bridge Deck nor the Saloon Deck, did not contain the space heater.

Solution is on page 61.

	Dock.	Dining	Purser's	Stair.	State.	bent	buried	eaten	intact	rusted	grill	heater	newel	pedest.	safe
Bridge															
Boat															
Poop															
Prom.															
Saloon															
grill															
heater															
newel															
pedestal															
safe															
bent															
buried															
eaten															
intact															
rusted															

BINGO PLAYS 1

In this puzzle, you are trying to fill your "card" with numbers and make a winning Bingo game. Just as in Bingo, each column has limits set for the numbers that can be placed in that column, as shown at the top of the card. For example, in column B, every square will have a number between 1 and 15 inclusive; in column N, every number will be between 31 and 45 inclusive. Use the given clues to eliminate possibilities within those limits until you can enter one final number in each square. A number will appear only once in any column. The "free" space in the center of the card is just that; you need not enter a number in that square. After you have filled in your card, find the Bingo winning combination: Just as in Bingo, the five numbers in one row, column, or diagonal will fit the clues given. Circle these numbers and you have won the game!

Solution is on page 60.

1. The number one does not appear on the card as a single-digit number, nor does it appear in row P, Y, or S, column G, or square LB.
2. The number two does not appear in row L or A, column B, N, or O, or square PG.
3. The number three does not appear in row A, column B or O, square LI, or in the winning combination.
4. The number four does not appear in row Y, column N or G, or square PO or AB.
5. The number five does not appear in row Y, column O, or square PB, PI, PN, LB, or SI.
6. The number six does not appear in row L, A, or S, column B or N, or square PG or YI.
7. The number seven does not appear in row P, column B or G, or square YI, YO, or SI.
8. The number eight does not appear in row L, column N or G, or square PI, YI, or SI.
9. The number nine does not appear in row Y, column I or N, or square PG, LB, or LG.
10. Zero does not appear in square PI, LG, LO, AB, YI, SI, or SO, or in the winning combination.
11. The number 33 is the only same-digit double-number combination on the card.

	B 1-15	I 16-30	N 31-45	G 46-60	O 61-75	
P	9	26	33	50	69	P
L	4	17	35	53	71	L
A	15	18	FREE	59	70	A
Y	8	23	37	60	68	Y
S	5	24	38	52	74	S
	B	I	N	G	O	

Did I win ~~Bingo~~ heart-mut

DEDUCTION PROBLEM 3

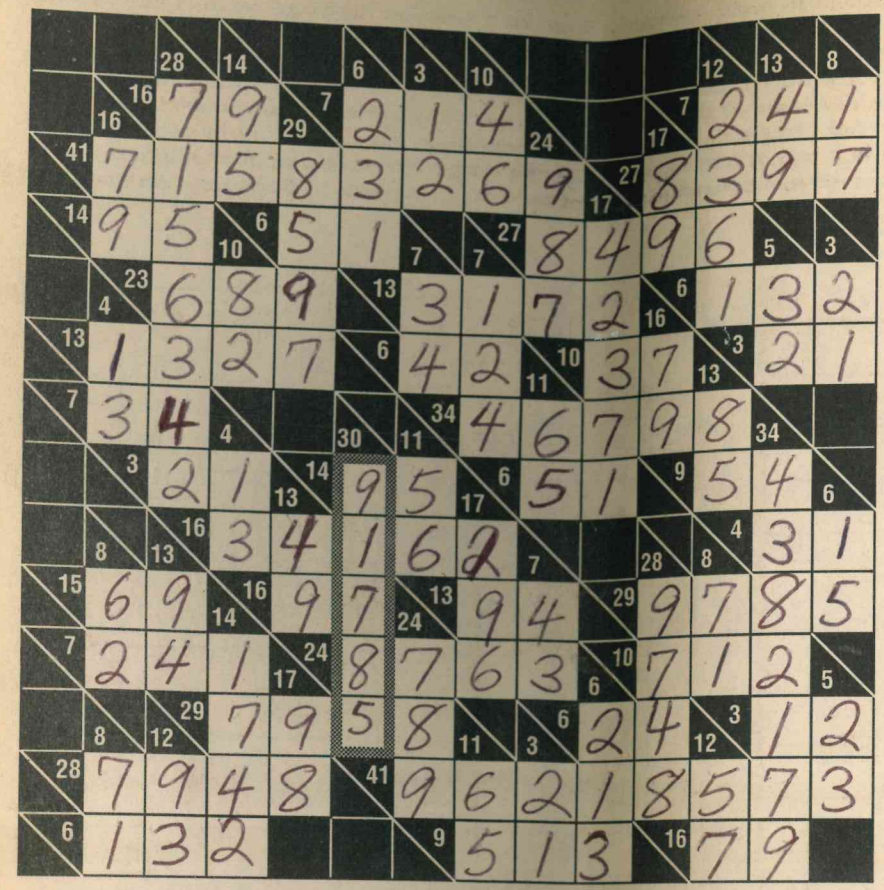
A PROBLEM WITH PRESIDENTS

Five students at Franklin Elementary were given the assignment of writing about a President of the United States. The five Presidents were John Adams, Thomas Jefferson, Andrew Jackson, Harry Truman, and John Kennedy. The students' last names were Abbott, Anderson, Jones, Kline, and Turner. Can you determine the full name of each student (one first name was Ann), the President each wrote about, and the grade each received?

1. The five students were Jim Anderson, the one who received a B, Teresa, the one who reported on John Kennedy, and Howard.
2. The five grades were A, B+, B, C+, and C. Teresa's grade was lower than Anderson's.
3. The student who reported on Andrew Jackson received a higher grade than Turner and a lower grade than Jay.
4. No student had the same first and last initial.
5. Each student shared exactly one initial with the President on whom he or she reported.

Answer is on page 65.

CROSS SUMS



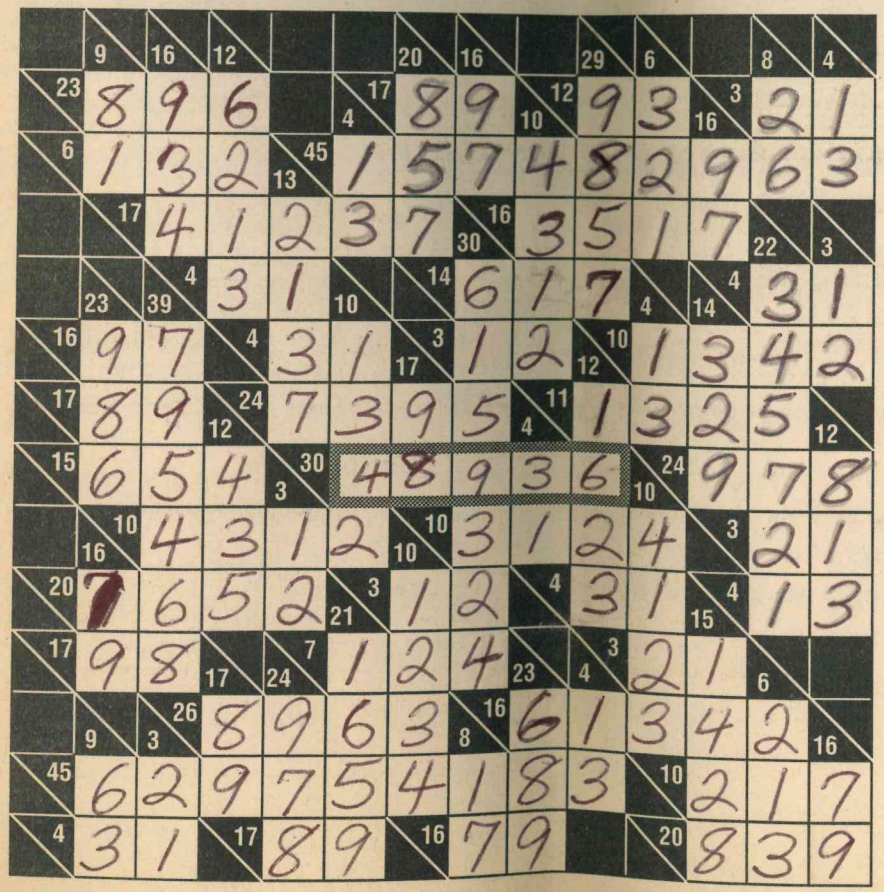
NUMBER 7

If you need help starting a puzzle, the digit combination to go into its outlined area is listed on page 65.

I told you she's a Masbugarra!

See page 8 for solving directions.

Solutions are on page 59.



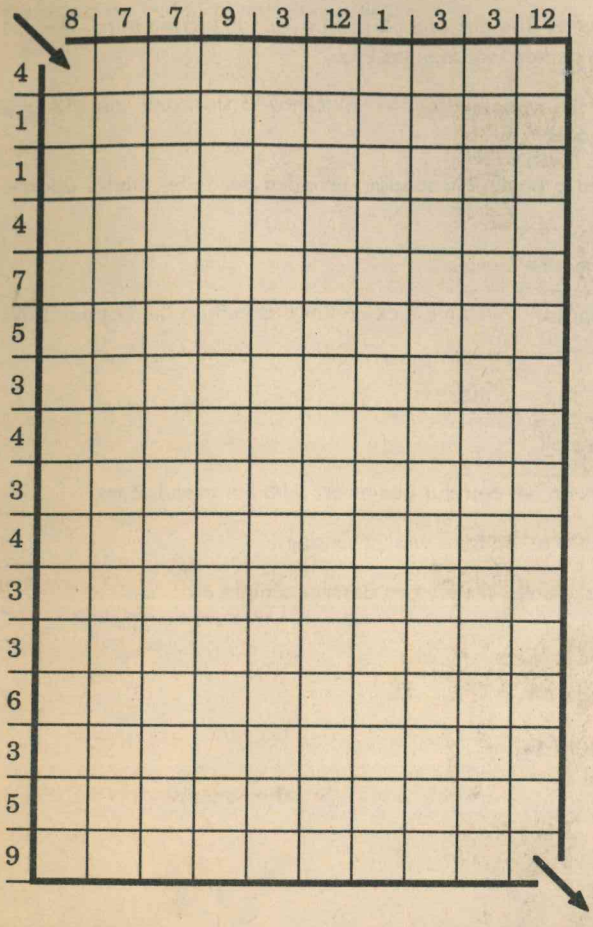
NUMBER 8

MATH MAZES

You'll have to use some deductive reasoning to make your way from start to finish in these mazes. Each maze is divided into squares; the number at the beginning of each row and column tells you exactly how many of those squares you will have to cross through in order to correctly reach the finish. For example, in the first maze, the number 4 is at the beginning of the first row across; this means you will have to cross through four of the boxes in that row. You need not cross through all of them at once; you may leave a row or column and return to it. For example, you might cross the first box of the first row, then turn downward. You would then have to return to the first row later so that you use exactly four boxes before you finish the maze. No diagonal moves are allowed. Solving hint: To begin, blacken any box that you determine will not be used, and place a dot in any box that you know must be used.

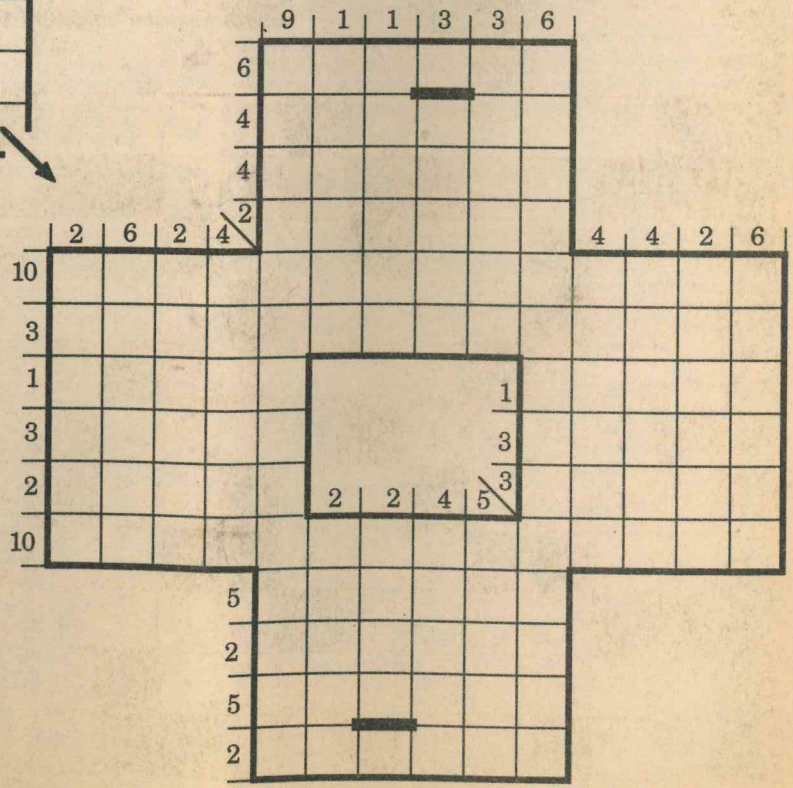
Solutions are on page 58.

1.



way do want to ~~have~~ ~~a~~ watch me and not ~~go~~ bed will FIT in

2. 9PT



To solve this Math Maze, begin and end in the center square. You will have to determine the entrance and exit boxes. Do not cross through heavy lines.

~~Stupid~~ Bad girl - lip

LOGIC PROBLEM

6. CABIN FEVER CURE

by Susan Zivich

The Johnson sisters all had a severe case of cabin fever. "Those icy sidewalks!" complained Jenny. "I'll be glad to get rid of the gray afternoons," added Jill. After far too much grimy January weather, the meteorologist offered an exciting treat — an afternoon of 60-degree weather. Letting out a whoop of delight, all five sisters dashed to the phone to make plans. All the sisters planned an afternoon at her favorite sport, and an evening event as well. They promised to meet at Sam's Sweet Shop for after-sports snacks and bragging. From the following clues, can you determine the sport each sister enjoyed (one biked), how each was dressed (one wore a White Sox shirt), the sundae each ordered, and each sister's plans for that evening?

1. Jane and the sister who ordered the chocolate sundae walked in together. The girl who played basketball arrived third. The girl in the Bulls shirt and the sister who planned to go to the mall ran in together, four minutes late.
2. Jill planned to bake cookies for the German Club bake sale. Her sister smoothed out her Blackhawks shirt and said, "Annie and I are going to the movies tonight. Hope we can find something good!"
3. Jenny brought her tennis racquet into Sam's. Her sister, who ordered a pineapple sundae, propped her roller blades against Jenny's bag.
4. The girl with the chocolate sundae sat next to the sister who planned on the movies.
5. One of the sisters dipped into her butterscotch sundae and announced, "Wish me luck — I'm babysitting the Barkley boys tonight!"
6. Julie wore her Bears shirt.
7. Jenny asked her sister to pick up a school tablet while she was at the mall.
8. The sister who shot 92 at Highland Hills Golf Course planned to work on her calculus homework with her friend Janet.
9. Jaclyn ordered a strawberry sundae. The sister who wore the Cubs shirt asked for a walnut sundae.
10. "Thank goodness I'm not baking," laughed the sister who played basketball, "the firemen deserve a night off!"

Solution is on page 61.

Use the space below to solve.

WORD ARITHMETIC

Solving directions are on page 9. Solutions are on page 65.

19.

0 1 2 3 4 5 6 7 8 9

```
          G E E
    ------------
L I E S | L E N D E R S
        L L I E S
        ---------
          O S G E R
          M N I E S
          ---------
            O O S R S
            M N I E S
            ---------
              L L M S
```

20.

0 1 2 3 4 5 6 7 8 9

```
          M O B
    ------------
B E D | N O B L E
        O U M
        -----
          M D U L
          M L N M
          -------
            U M M E
            U T D W
            -------
              U E O
```

21.

0 1 2 3 4 5 6 7 8 9

```
          W O W S
    ------------
W A S H | L O R D S H I P
        L O A O L
        ---------
          L D R H I
          L O A O L
          ---------
            D L H H P
            D O I O D
            ---------
              P H H
```

22.

0 1 2 3 4 5 6 7 8 9

```
          H O W
    ------------
E A T | C H A T T Y
        C C O T
        -------
          O W Y T
          E A T
          -----
            W C Y Y
            U M W T
            -------
              H C T
```

23.

0 1 2 3 4 5 6 7 8 9

```
          P O T
    ------------
N O R | P O W E R S
        E N P O
        -------
          O A A R
          R O N T
          -------
            T T I S
            A N S S
            -------
              T N W
```

24.

0 1 2 3 4 5 6 7 8 9

```
          A H A
    ------------
F E L L | A C H I E V E
        I F A V J
        ---------
          H I O E V
          C E F E L
          ---------
            A O F H E
            I F A V J
            ---------
              V L L E
```

25.

0 1 2 3 4 5 6 7 8 9

```
          U S E
    ------------
T E D | S T A I N S
        S S W U
        -------
          E W M N
          E W T U
          -------
            T W S
            T E D
            -----
              I
```

26.

0 1 2 3 4 5 6 7 8 9

```
          A D
    ------------
N I C E | A T T I C
        A C I A
        -------
          D E C C
          D N L I
          -------
            U X C
```

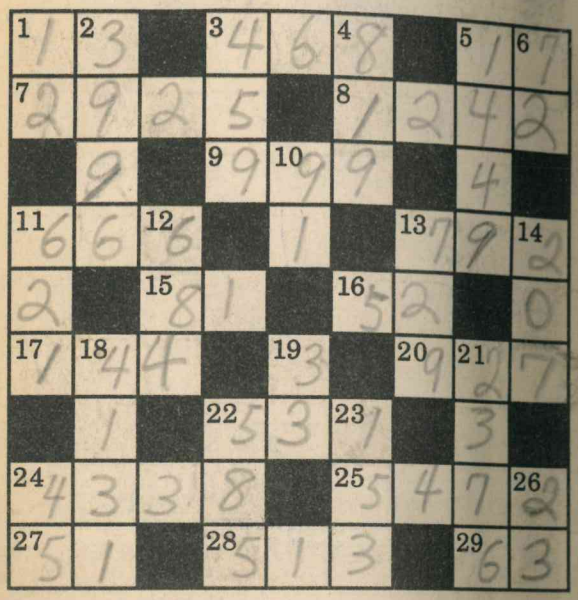
27.

0 1 2 3 4 5 6 7 8 9

```
          B I N
    ------------
L E G | H I G H E R
        H N O B
        -------
          E O Y E
          E O I O
          -------
            O B R
```

FIGURE LOGICS 5 & 6

Directions for solving Figure Logics are on page 7.
If you need help starting these puzzles, starting helps are on page 65.

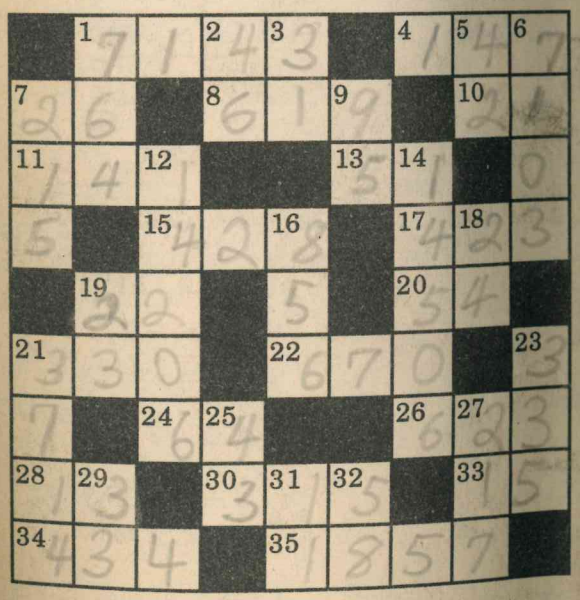


ACROSS

1. Ten less than 26-Down
3. Nine times 16-Across
5. One-third of 27-Across
7. Five times 22-Down
8. Two times 11-Down
9. 3-Across plus 22-Across
11. 3-Down plus 14-Down
13. 14-Down plus 22-Down
15. Ten less than 10-Down
16. Four times 1-Across
17. Two times 6-Down
20. 3-Across plus 3-Down
22. 12-Down minus 23-Down
24. 14-Down plus 18-Down
25. Eight times 12-Down
27. One less than 16-Across
28. 3-Across plus 24-Down
29. 27-Across plus 1-Down

DOWN

1. One less than 1-Across
2. Six times 11-Across
3. Nine times 27-Across
4. 1-Across times 29-Across
5. Seven times 14-Down
6. Six times 1-Down
10. Seven times 1-Across
11. Three times 14-Down
12. 29-Across plus 11-Down
13. Nine times 15-Across
14. Nine times 26-Down
18. Nine times 3-Down
19. Thirty less than 29-Across
21. Three times 13-Across
22. 1-Across times 24-Down
23. One-third of 3-Down
24. 1-Down plus 19-Down
26. Six more than 5-Across



ACROSS

1. The digits of 21-Down rearranged
4. Seven times 10-Across
7. Three more than 19-Down
8. Four less than 26-Across
10. One-half of 5-Down
11. Six less than 4-Across
13. The digits of 33-Across reversed
15. Five more than 17-Across
17. Three times 11-Across
19. One more than 10-Across
20. 10-Across plus 29-Down
21. Ten times 29-Down
22. Two times 23-Down
24. Ten more than 20-Across
26. Two hundred more than 17-Across
28. Two less than 33-Across
30. One hundred more than 7-Down
33. Four more than 31-Down
34. 1-Down minus 21-Across
35. Three times 8-Across

DOWN

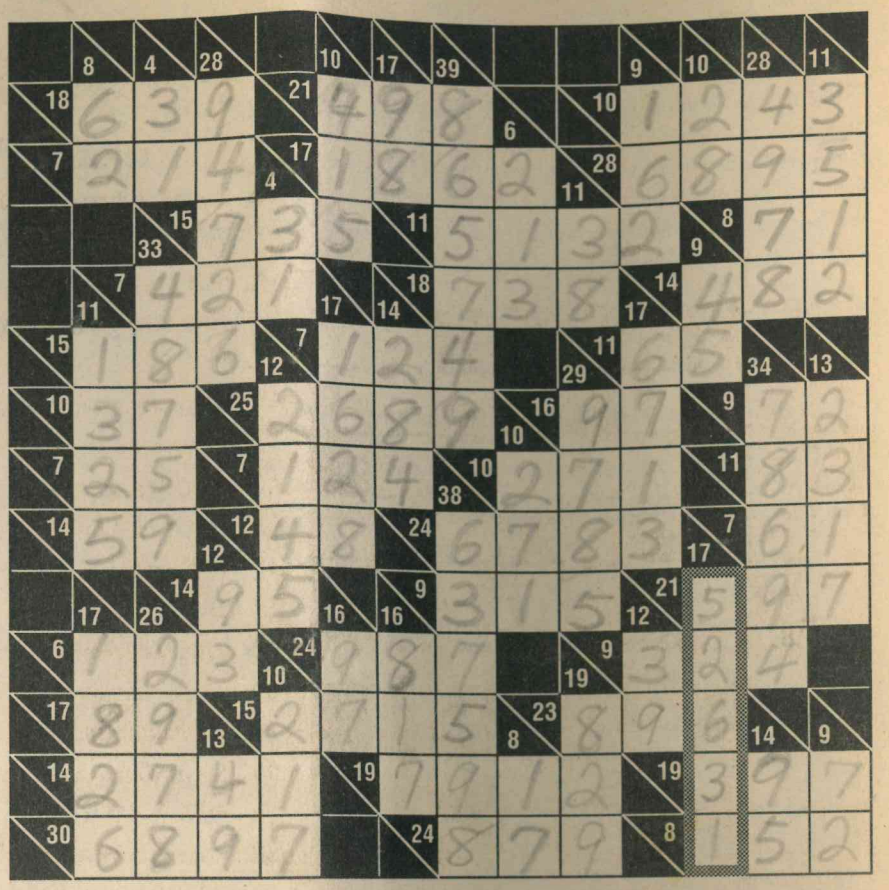
1. 11-Across plus 26-Across
2. The digits of 24-Across reversed
3. The digits of 28-Across reversed
5. One less than 25-Down
6. Forty less than 1-Across
7. Two less than 27-Down
9. 24-Across plus 3-Down
12. Two times 6-Down
14. Three hundred more than 12-Down
16. Two times 15-Across
18. The digits of 5-Down reversed
19. One-half of 2-Down
21. Two times 35-Across
23. Twenty more than 30-Across
25. One-fifth of 7-Down
27. One-half of 34-Across
29. 24-Across minus 3-Down
31. One-half of 19-Across
32. Seven more than 13-Across

Solutions are on page 60

CROSS SUMS

NUMBER 9

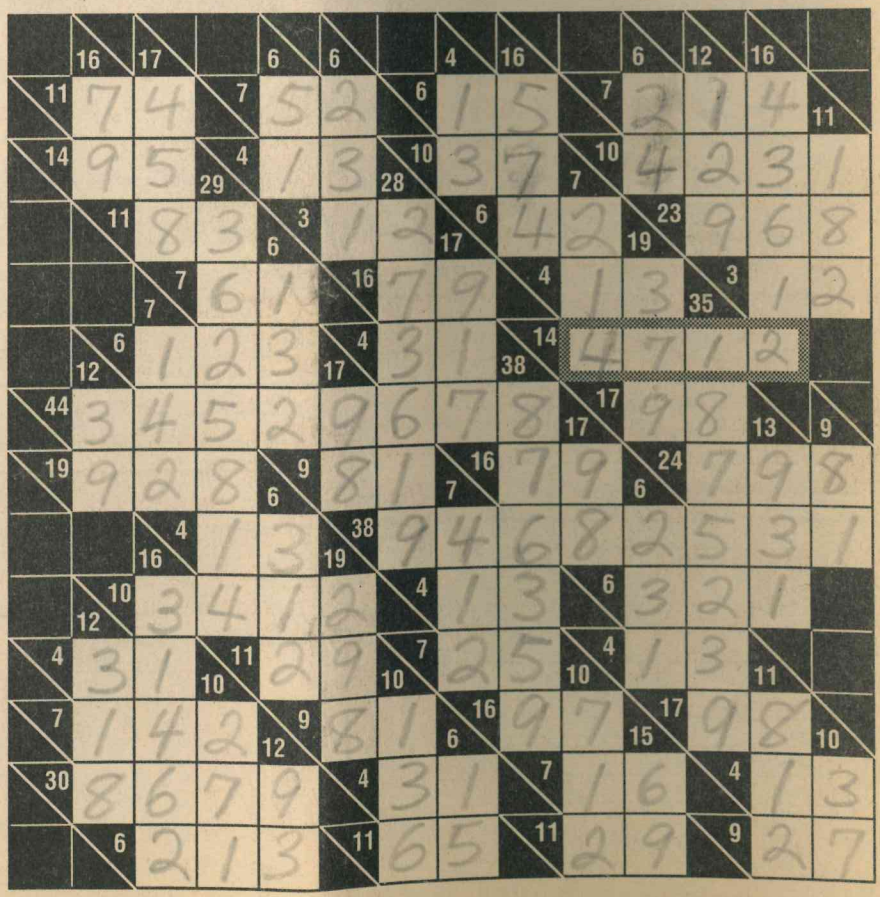
If you need help starting a puzzle, the digit combination to go into its outlined area is listed on page 65.



See page 8 for solving directions.

Solutions are on page 59.

NUMBER 10



LOGIC PROBLEM

7. SUMMERVILLE EXTENSION CLASSES

by Kevyn Dymond

The manager of the Summerville Bank has a great interest in education and firmly believes in the benefits learning can provide. He also acts on his beliefs, by allowing the multipurpose room of the Summerville Bank to be used as a branch classroom for the Summerville Extension University every weekday evening. On each evening Monday through Friday a different subject is taught. All five residents of the Summerville Arms Apartments were among the students attending the most recently completed semester. Each of the five residents attended class on a different evening. Can you determine each of these five residents' full name (one was Ian), the evening each attended class, the subject taught, and the name of the instructor?

1. Prof. Forrest's class was held later in the week than the computer class, which was held later than Nan's class.
2. Jan Win just completed her first semester.
3. Student Yin's class was held sometime later in the week than Prof. Shrubb's class, and one day before Ken's class.
4. Student Vin's class and the English class were held two days apart, in some order.
5. Student Xin's class (which wasn't held on Monday) was held sometime earlier in the week than Prof. Hedges' class.
6. The five classes were: Len's class, Yin's class, Prof. Bush's class (which wasn't held on Tuesday), the philosophy class, and Thursday's class.
7. Prof. Thicket's class was held sometime earlier in the week than the algebra class, which was held sometime earlier than student Zin's class.
8. Music class was held on Tuesday.

Solution is on page 61.

	Vin	Win	Xin	Yin	Zin	Bush	Forrest	Hedges	Shrubb	Thicket	alg.	comp.	Eng.	mus.	phil.	M	T	W	Th.	F
Ian																				
Jan																				
Ken																				
Len																				
Nan																				
M																				
T																				
W																				
Th.																				
F																				
alg.																				
comp.																				
Eng.																				
mus.																				
phil.																				
Bush																				
Forrest																				
Hedges																				
Shrubb																				
Thicket																				

ADDITION LOGIC

In each set of words below, each word is also an addition problem — each of the letters stands for one of the digits 1 through 9, and the sum of the values of the letters in a word equals the total given after the word. Using the addition involved, try to determine the value of each of the letters. No two letters stand for the same digit, and if R stands for 3 in one word, it will be the same throughout that problem.

Solutions are on page 63.

1.

M + O + L + D = 21

M + A + M + A = 32

B + A + S + S = 16

S + A + L + T = 17

L + O + S + T = 10

D + U + S + T = 18

2.

C + H + A + T = 18

I + N + C + H = 21

R + A + I + N = 27

E + A + C + H = 12

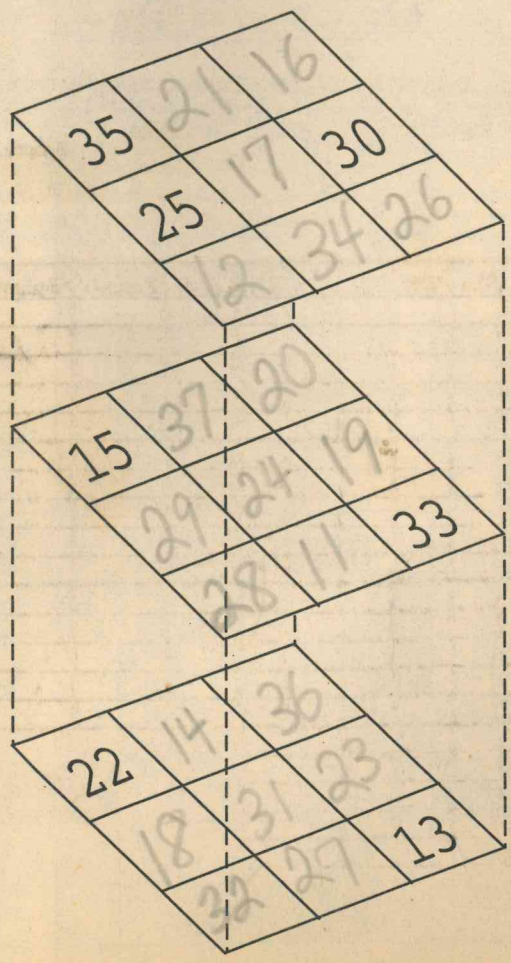
H + A + I + R = 19

C + A + L + L = 15

THREE-LAYER MAGIC

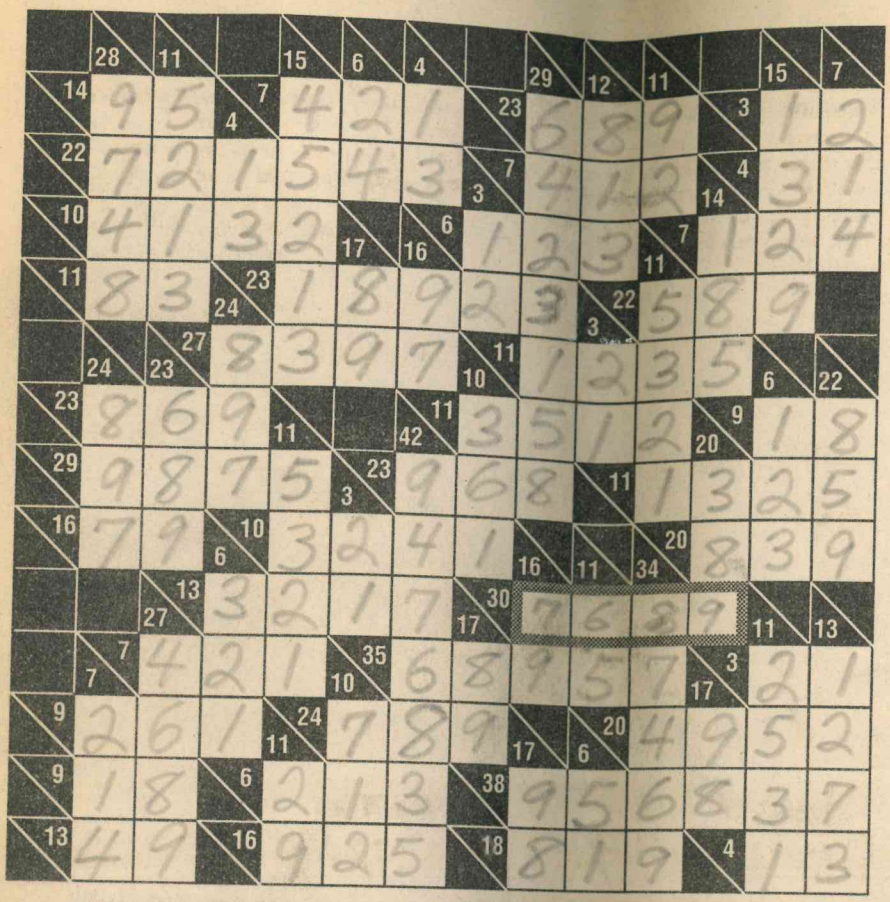
In this puzzle, the magic number square has been taken to new heights – literally! The diagram consists of three layers of numbers stacked on top of each other, each layer consisting of nine squares. Using the numbers from 11 to 37 once each, place the numbers into the squares so that the three numbers in each of the following add up to the same "magic number": 1. each row of each layer; 2. each column of each layer; 3. each stack directly down through all three layers; 4. each diagonal that crosses through the center square of the diagram (which is the center square of the middle layer). Diagonals that do not run through the center square of the diagram (for example, the diagonals of the top or bottom layers) do NOT add up to the magic number. Some of the numbers have been entered as a starting point; can you finish the puzzle?

Solution is on page 58.



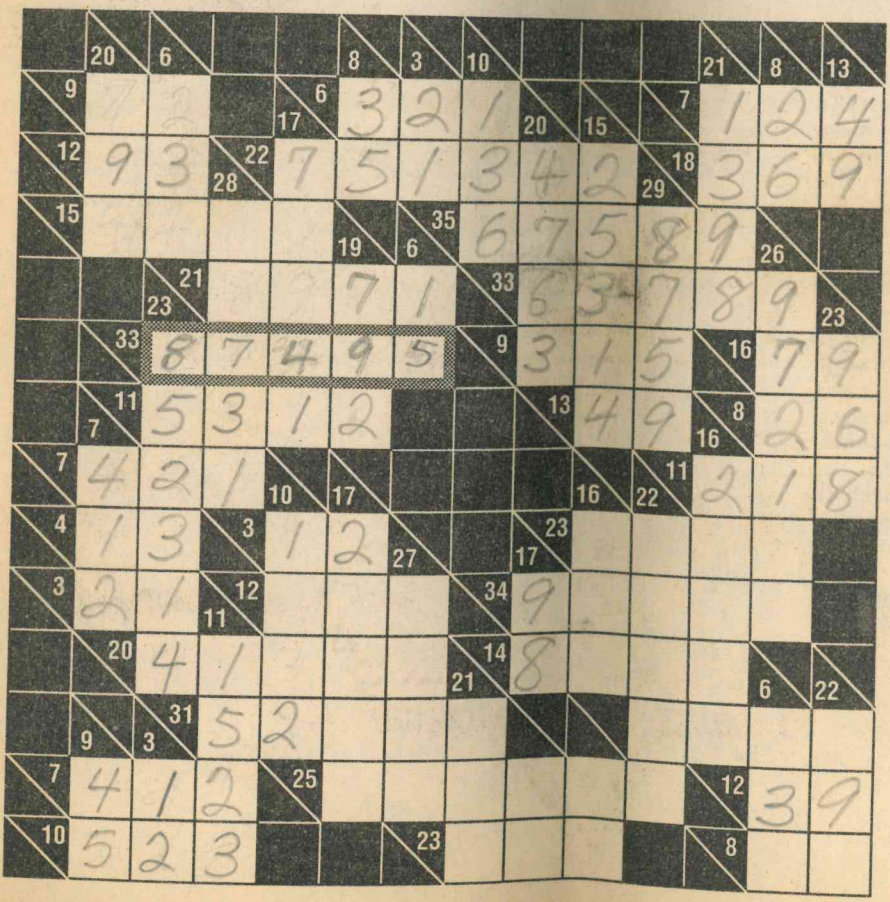
Magic Number: 72

CROSS SUMS



NUMBER 11

If you need help starting a puzzle, the digit combination to go into its outlined area is listed on page 65.



See page 8 for solving directions.

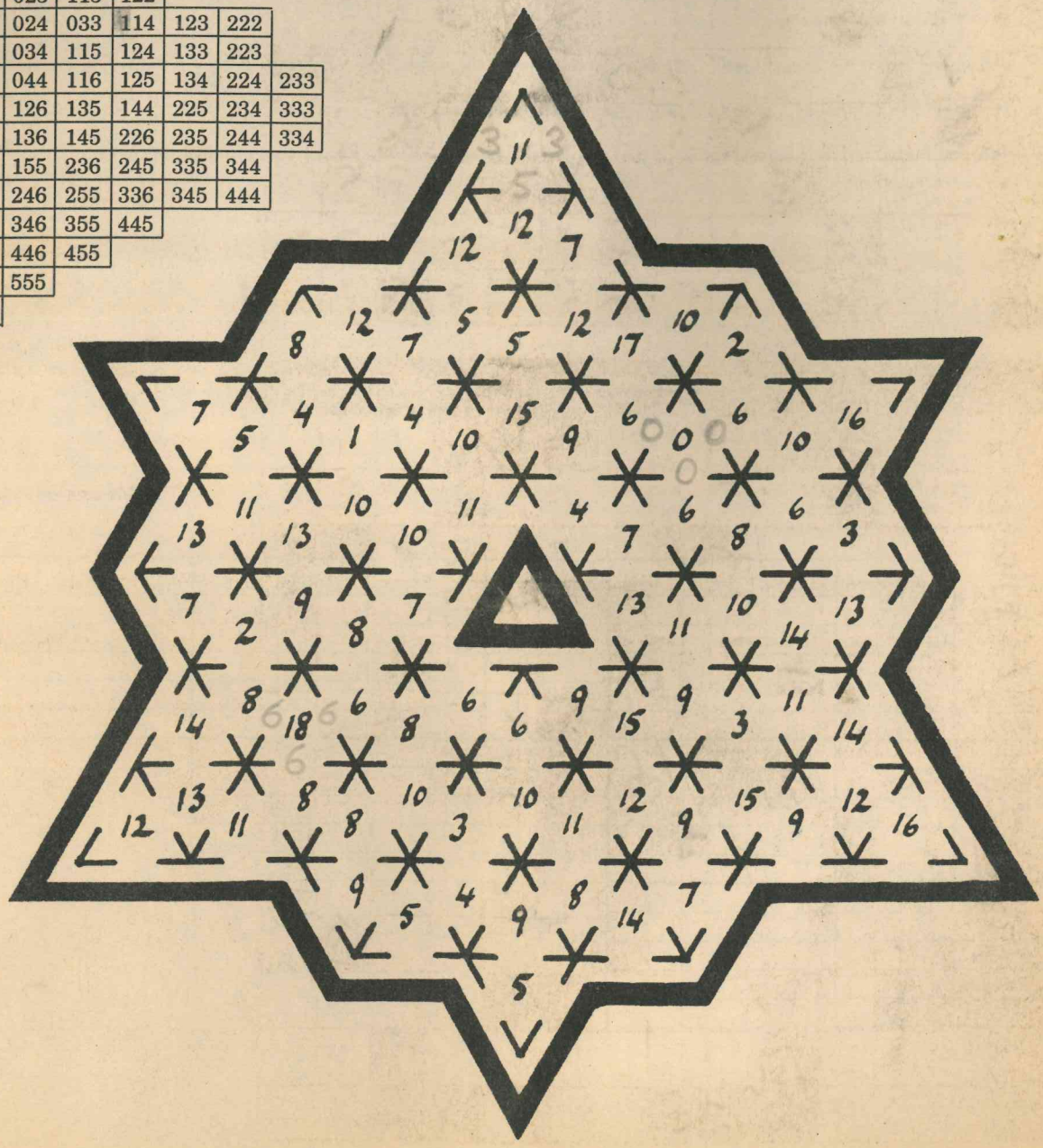
Solutions are on page 59.

NUMBER 12

TRIGONS

Trigons is a brain teaser that will test your powers of logic and deduction. The diagram is made up of a series of open triangles with a number in the center; that number represents the sum of the digits you are to write into the spaces on the sides of the triangles. Where two triangles share a side, they share the number to be written into that side. When a triangle shares only one side with another triangle, the two noncontact sides of that triangle will share the same number. All the combinations use only the digits 0 through 6. We've listed all the possible combinations for every sum in the small chart, so all you have to do is figure out where each of those combinations belongs (not as easy as it sounds!). The numbers in a combination can go in any order around their triangle, and each combination will be used exactly once. You can begin by filling in 0-0-0 around the triangle with 0 at its center and 6-6-6 around the triangle with 18 at its center. It helps to look for large sums adjacent to small sums, as they will have fewer possibilities for common digits. **Solution is on page 60.**

0	000						
1	001						
2	002	011					
3	003	012	111				
4	004	013	022	112			
5	005	014	023	113	122		
6	006	015	024	033	114	123	222
7	016	025	034	115	124	133	223
8	026	035	044	116	125	134	224	233
9	036	045	126	135	144	225	234	333
10	046	055	136	145	226	235	244	334
11	056	146	155	236	245	335	344	
12	066	156	246	255	336	345	444	
13	166	256	346	355	445			
14	266	356	446	455				
15	366	456	555					
16	466	556						
17	566							
18	666							



TRIGONS

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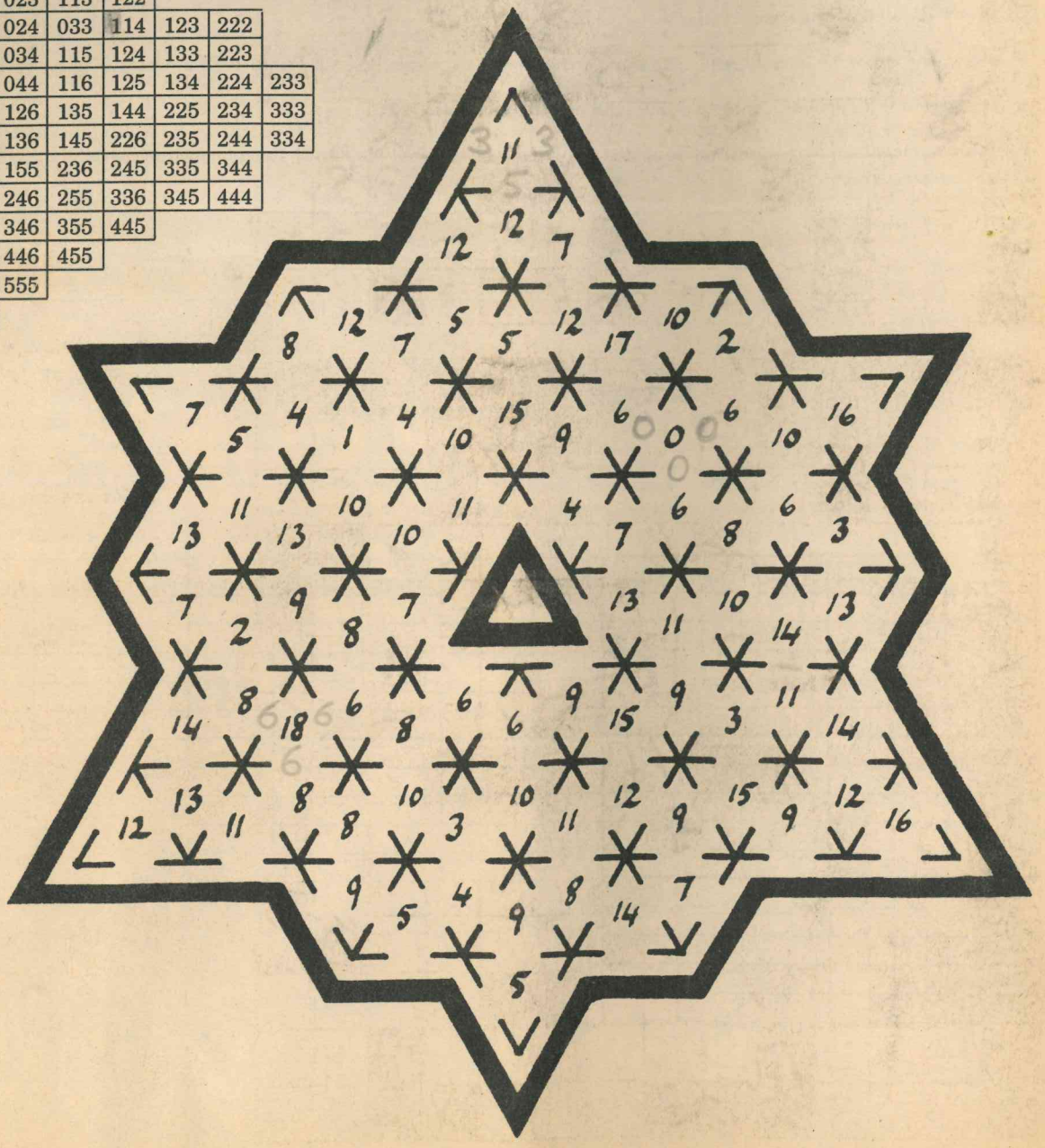
Solution is on page 60.

0	000							
1	001							
2	002	011						
3	003	012	111					
4	004	013	022	112				
5	005	014	023	113	122			
6	006	015	024	033	114	123	222	
7	016	025	034	115	124	133	223	
8	026	035	044	116	125	134	224	233
9	036	045	126	135	144	225	234	333
10	046	055	136	145	226	235	244	334
11	056	146	155	236	245	335	344	
12	066	156	246	255	336	345	444	
13	166	256	346	355	445			
14	266	356	446	455				
15	366	456	555					
16	466	556						
17	566							
18	666							



LOGIC PROBLEM

8. BRIBING MISS DAISY

by Mike Akers

The Wilsons own a huge mastiff named Miss Daisy. Every day, Miss Daisy greets Ed the mailman with an outward display of ferocity. Ed knows that Miss Daisy is a pussycat at heart, and is only reminding Ed to give her a dog biscuit from a supply he keeps in his mailbag. Five different would-be visitors to the Wilson home, each arriving on a different day in the same week, were unfamiliar with Miss Daisy's manner and were discouraged from approaching the house. Ed assisted by giving each man, including Harold, a dog biscuit to offer to Miss Daisy. Each visitor could then go about his business while Miss Daisy clearly came out the winner, having received two dog biscuits each day. From the clues provided, can you deduce the full name and business of each visitor, and which day of the week (Monday through Friday) he arrived?

1. Fred (who is not Mr. Green) came earlier in the week than the encyclopedia salesman but later than Mr. Cross (who is not the florist).
2. The insurance salesman arrived earlier in the week than the florist. Neither arrived on Tuesday.
3. The two meter readers did not arrive on consecutive days. The two salesmen did not arrive on consecutive days.
4. Bob (who did not arrive on Wednesday) arrived earlier in the week than Mr. Bowers (who did not read the water meter) and later than at least one meter reader.
5. John, who is not the encyclopedia salesman, came later in the week than Mr. Turner (who did not arrive on Wednesday).
6. Larry, who is not the insurance salesman, did not arrive Wednesday.
7. The gas meter reader (who is not Bob) and Mr. Palmer (who is not the florist) came later in the week than Mr. Green (who is not a meter reader).

Solution is on page 62.

	Bob	Fred	Harold	John	Larry	Bowers	Cross	Green	Palmer	Turner	encyc.	insur.	flow.	gas	water
Mon.															
Tues.															
Wed.															
Thurs.															
Fri.															
encyc.															
insur.															
flowers															
gas															
water															
Bowers															
Cross															
Green															
Palmer															
Turner															

FIGURE LOGIC 7

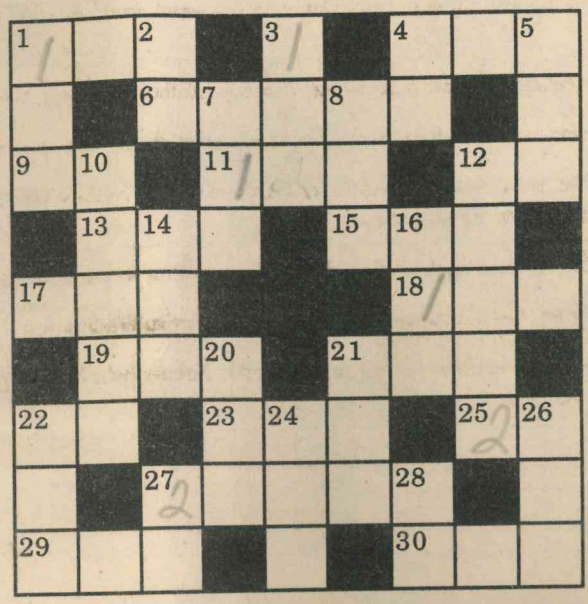
Directions for solving Figure Logics are on page 7. If you need help starting this puzzle, a help is on page 65.

ACROSS

1. 9-Across plus 18-Across
4. 13-Across plus 30-Across
6. 9-Across times 8-Down
9. One-half of 1-Down
11. One-fifth of 7-Down
12. Three less than 9-Across
13. 18-Across plus 8-Down
15. One-half of 13-Across
17. 19-Across plus 8-Down
18. 9-Across plus 22-Across
19. One-third of 16-Down
21. Three more than 19-Across
22. One-half of 11-Across
23. Two times 1-Across
25. Three less than 27-Down
27. 17-Across times 22-Across
29. 23-Across plus 14-Down
30. 15-Across plus 26-Down

DOWN

1. 12-Across plus 2-Down
2. Twenty more than 22-Across
3. Two less than 11-Across
4. Thirty more than 9-Across
5. Five times 22-Across
7. 24-Down minus 19-Across
8. One-half of 26-Down
10. 27-Across plus 12-Down
12. Four times 6-Across
14. 18-Across plus 23-Across
16. Seven times 11-Across
20. Seven times 18-Across
21. 13-Across minus 3-Down
22. 1-Down plus 26-Down
24. Two times 23-Across
26. 1-Across plus 5-Down
27. 4-Down minus 2-Down
28. Four times 25-Across



Solution is on page 60

NUMBERAMA

Can you discover the logical pattern for each number sequence below and thereby discover the missing number (shown by the dash)? For example, for

26 16 20 11 ___ 7 11 4 8

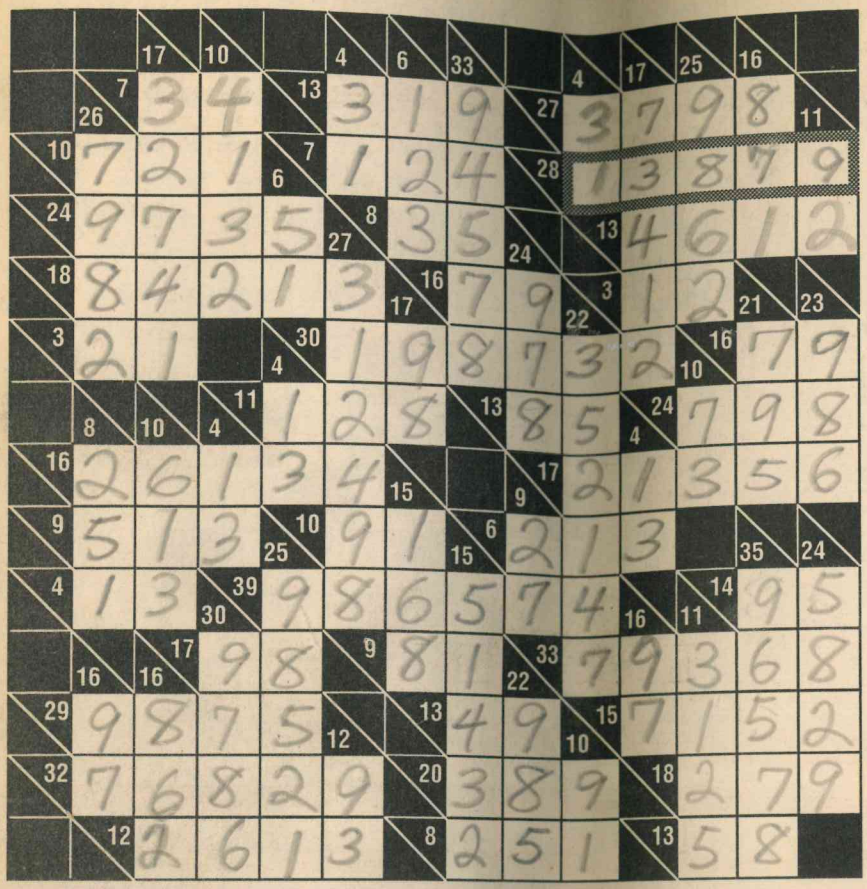
the solution is:

26(-10)=16(+4)=20(-9)=11(+4)=15(-8)=7(+4)=11(-7)=4(+4)=8.

A.	18	1	28	10	____	18	45	25	52
B.	3	12	48	26	____	16	64	42	20
C.	21	3	6	12	____	7	10	20	57
D.	1	16	2	8	____	48	6	12	7
E.	10	20	14	7	____	12	6	18	12	6
F.	8	2	4	8	____	4	12	36	40
G.	36	3	18	6	____	1	16	4	10
H.	6	30	15	7	____	14	6	18	9	1
I.	4	1	6	18	____	6	30	41	32
J.	12	6	3	18	____	2	32	8	2	47
K.	27	48	6	2	____	54	6	1	17

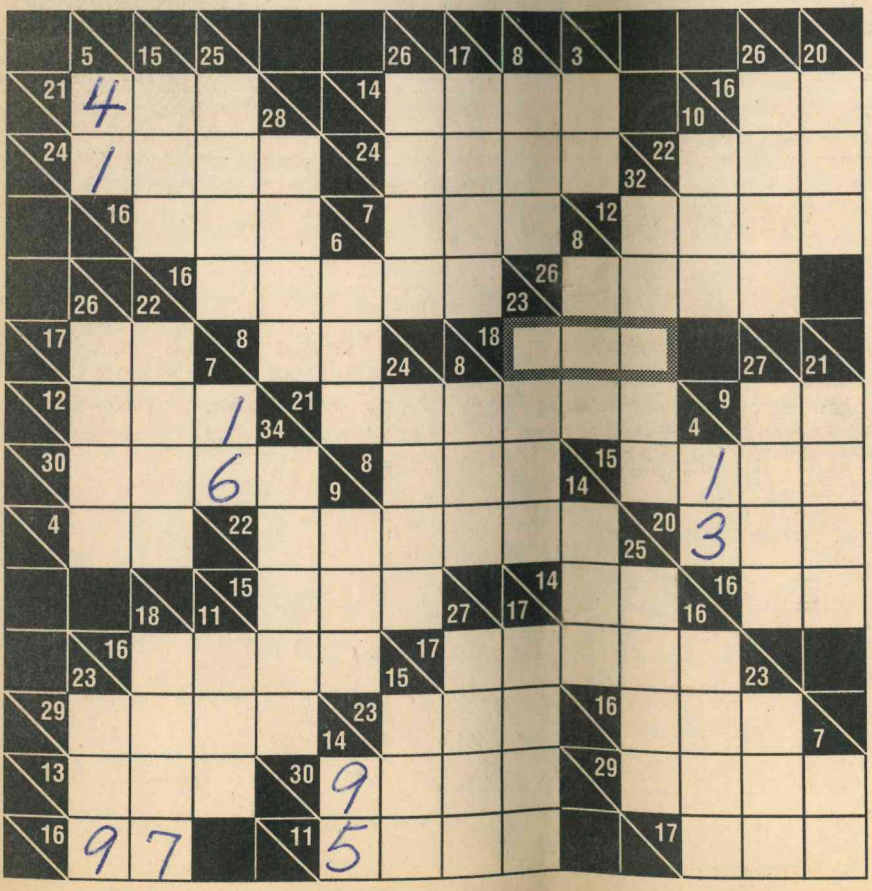
Answers are on page 58

CROSS SUMS



NUMBER 13

If you need help starting a puzzle, the digit combination to go into its outlined area is listed on page 65.



See page 8 for solving directions.

Solutions are on page 59.

NUMBER 14

Be prin?

You're sweat?

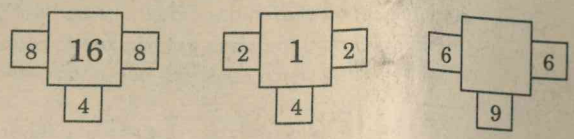
I wanna hold your hat?

MATHEMATICAL DEDUCTION

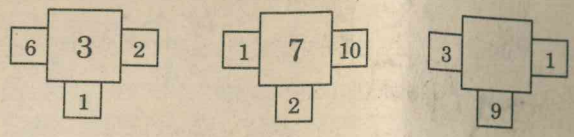
Each of the puzzles below consists of two completed sets and one uncompleted set. To solve, use math and deductive reasoning to figure out the mathematical sequence used to arrive at the numbers in the center boxes of the two complete sets, and so discover what number belongs in the blank box of the third. Each puzzle has a sequence which is carried through for all three sets. You might use addition, subtraction, multiplication, division, or other basic math functions such as those used in Figure Logics. No fractions or negative numbers are involved, and each number surrounding its center box will be used exactly once.

Answers are on page 61.

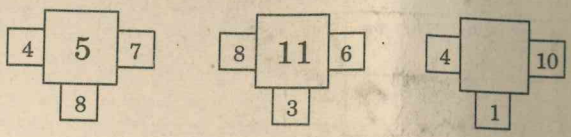
1.



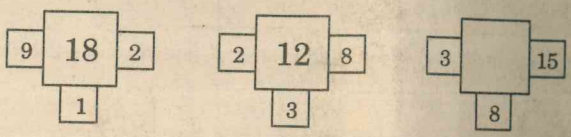
2.



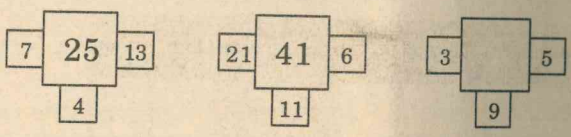
3.



4.



5.



MATH MANIA

HOW SWEET IT IS!

At the candy store, you see some attractive yellow, blue, and white gumdrops, jelly beans, and mints. You buy ten of each kind in each color, for a total of 90 candies. You take them home and dump them all into a bowl. After an hour of solitary nibbling, you notice that the bowl now contains exactly half as many mints as white candies; half as many yellow candies as gumdrops; and twice as many jelly beans as blue candies. You also notice that the total number of yellow and blue gumdrops and yellow and blue jelly beans is down to nine.

How many white mints have you eaten? Eaten?

Answer is on page 62.

LOGIC PROBLEM

9. GREAT HOSTESSES, FAIR GUESTS

by Frank Alward

Case City holds its annual Carnival in August for six consecutive days from Tuesday through Sunday. Ms. Willets and five other members of the Case City Women's League decided to reward six of the honor roll students of Case City Elementary — each woman took one child to the Carnival for a day of hot dogs, cotton candy, games, rides, and fun. Each pair attended on a different day, and all had a wonderful time. A few days after the Carnival closed, student Doris told Carol, who had been a hostess, that although all the kids enjoyed everything at the Carnival very much, each had chosen one ride that stood out as the highlight of his or her day. No two students chose the same highlight. From this information and the clues below, can you determine each hostess's full name, the first name of the student she escorted, each child's highlight, and which day each pair attended?

1. Wilma, whose hostess was not Beverly, attended the day after Ms. Peters and the day before the Monkey Ride enthusiast (who was not Ms. Zerby's guest).
2. The fan of the Over-Easy Globe (who was not Jim) spent the day at the Carnival earlier in the week than the UFO Saucer's fan.
3. Ms. Anders attended at least two days before Mike and his hostess did.
4. Ms. Peters did not hostess Janis (who was not the Zig-Zag's fan).
5. Mike's hostess was not Donna, Patty, or Beverly.
6. Fran is not Ms. Zerby.
7. The Monkey Ride's fan (who was not Janis) did not attend on Sunday.
8. Patty attended at least two days after the Over-Easy Globe's fan.
9. Both Ms. Yates (who was not Jim's hostess) and Ms. Conte attended later in the week than either Billy (whose day was not Tuesday) or Mike.
10. Janis (who was not hostessed by either Patty or Donna) attended one day after the Bowl-A-Toss's fan and one day before Lois (who is not Ms. Peters) and her guest.
11. Beverly and her guest (who was not Billy) attended earlier in the week than either the Ferris Wheel fan or the Zig-Zag fan (both of these fans attended on consecutive days).

Solution is on page 62.
Use the space below to solve.

BINGO PLAYS 2

Bingo Plays 1 and directions for solving are on page 23.

Solution is on page 60.

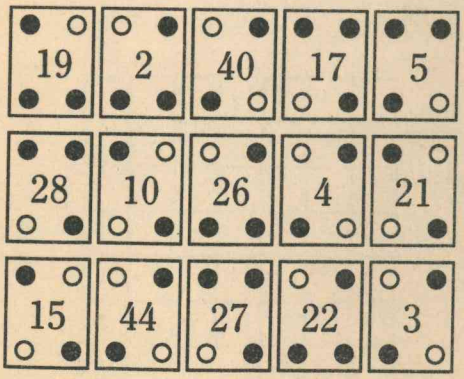
	B 1 - 15	I 16 - 30	N 31 - 45	G 46 - 60	O 61 - 75	
P	9	16	44	49	69	P
L	6	25	40	57	73	L
A	1	28	FREE	52	68	A
Y	7	21	31	60	67	Y
S	12	18	42	58	70	S
	B	I	N	G	O	

1. The number one does not appear in column O or square PN, LN, LG, AG, SN, or SG.
2. The number two does not appear on the card as a single-digit number, nor does it appear in column O, square PI, PN, LN, AB, YN, or SI, or in the winning combination.
3. The number three does not appear in row A, column B or I, or square PN, PO, LN, LG, YO, SN, or SG.
4. The number four does not appear in row A, column B or O, or square LI, LG, YI, YN, YG, or SG.
5. The number five does not appear in row Y, column B, N, or O, or square PG.
6. The number six does not appear in row S or square PB, PG, LI, LG, LO, AB, AI, AG, YB, YI, or YN.
7. The number seven does not appear in row P or A, column I, or square YN or SB.
8. The number eight does not appear in column B, square PG, LI, LG, AG, YI, or YN, or in the winning combination.
9. The number nine does not appear in row A, column I, or square LG, YN, SB, or SG.
10. Zero does not appear in column B or square PN, LI, LG, LO, AI, AG, YI, or SG.
11. The number 44 is the only same-digit double-number combination on the card.

SUM SPOTS

The idea of Sum Spots is to form a magic number square, in which the sums of the numbers in each row, column, and diagonal are the same, by placing numbered tiles into the squares of the diagram. In this puzzle, the sum is 73. Use each tile once and only once. HANDICAP: Each tile has a black and white dot in each corner. As a tile is placed next to another tile in the diagram, the dot patterns must match, black dots next to black dots and white dots next to white dots. These patterns must match on every side that touches another tile, but tiles that touch diagonally do not have to match. For example, the 22 tile could go the left of the 5 tile, since the 22 tile has black dots in its upper- and lower-right corners and the 5 tile has black dots in its upper- and lower-left corners. However, the 22 tile could not go to the right of the 5 tile, since their black and white dots would not match. As you place each tile in the diagram, blacken in the appropriate dots in all corners. It is a good idea to cross off each tile as you use it.

Solution is on page 65.



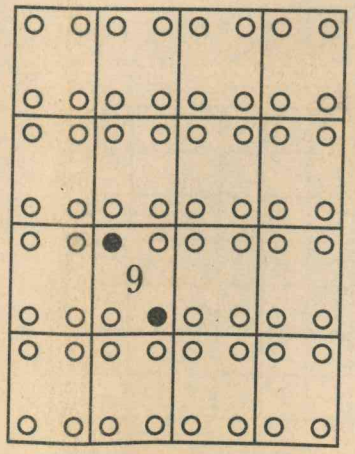
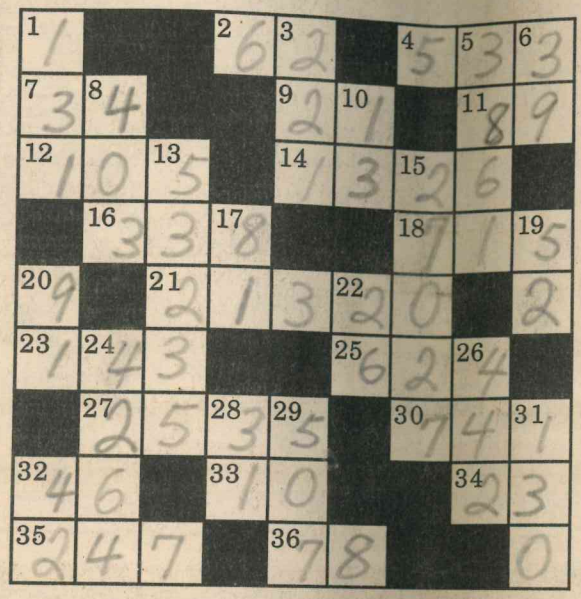


FIGURE LOGIC 8

Directions for solving Figure Logics are on page 7. If you need help starting this puzzle, a help is on page 65.

ACROSS

2. 33-Across plus 19-Down
4. 8-Down plus 31-Down
7. 9-Across plus 10-Down
9. One-half of 32-Down
11. Two less than 20-Down
12. Five times 9-Across
14. Six times 3-Down
16. 30-Across minus 8-Down
18. Five times 23-Across
21. Five times 24-Down
23. 19-Down plus 20-Down
25. Eight times 36-Across
27. Five times 29-Down
30. Three times 35-Across
32. Two times 34-Across
33. 28-Down minus 9-Across
34. Two more than 9-Across
35. 3-Down plus 22-Down
36 Two times 6-Down



DOWN

1. One more than 31-Down
3. 25-Across minus 8-Down
5. 14-Across plus 27-Across
6. 17-Down minus 32-Down
8. 10-Down times 28-Down
10. Three more than 33-Across
13. 9-Across times 27-Across
15. Seven times 5-Down
17. 20-Down minus 33-Across
19. Six more than 32-Across
20. Seven times 10-Down
22. One-half of 19-Down
24. 5-Down plus 8-Down
26. Two times 3-Down
28. One-half of 2-Across
29. 6-Down times 10-Down
31. 33-Across times 10-Down
32. 1-Down minus 11-Across

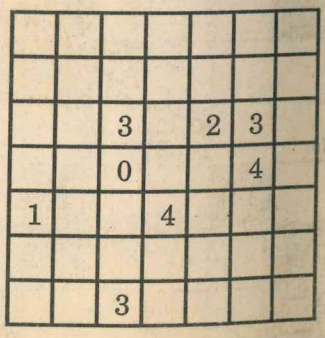
Solution is on page 60

BLACK MAGIC

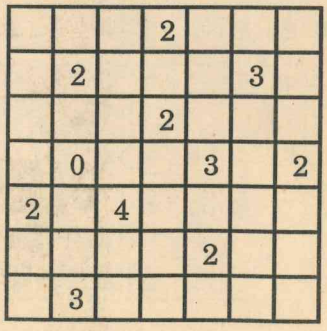
In each puzzle below, blacken in exactly ten of the empty squares in the grid below in such a way that each numbered square accurately indicates how many immediately adjacent squares are black. For example, a square containing "3" indicates that three and only three of the adjacent squares, moving horizontally, vertically, or diagonally, are black. It may be helpful to mark any square that you decide is not black with "0."

Solutions are on page 60.

1.



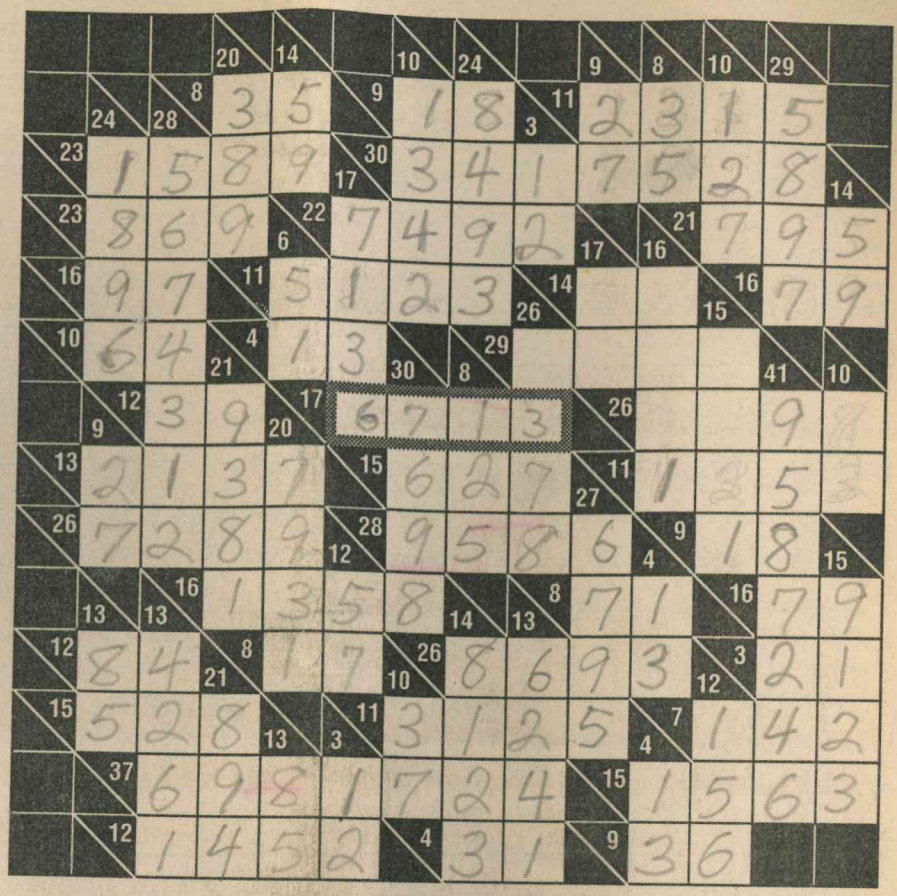
2.



CROSS SUMS

NUMBER 15

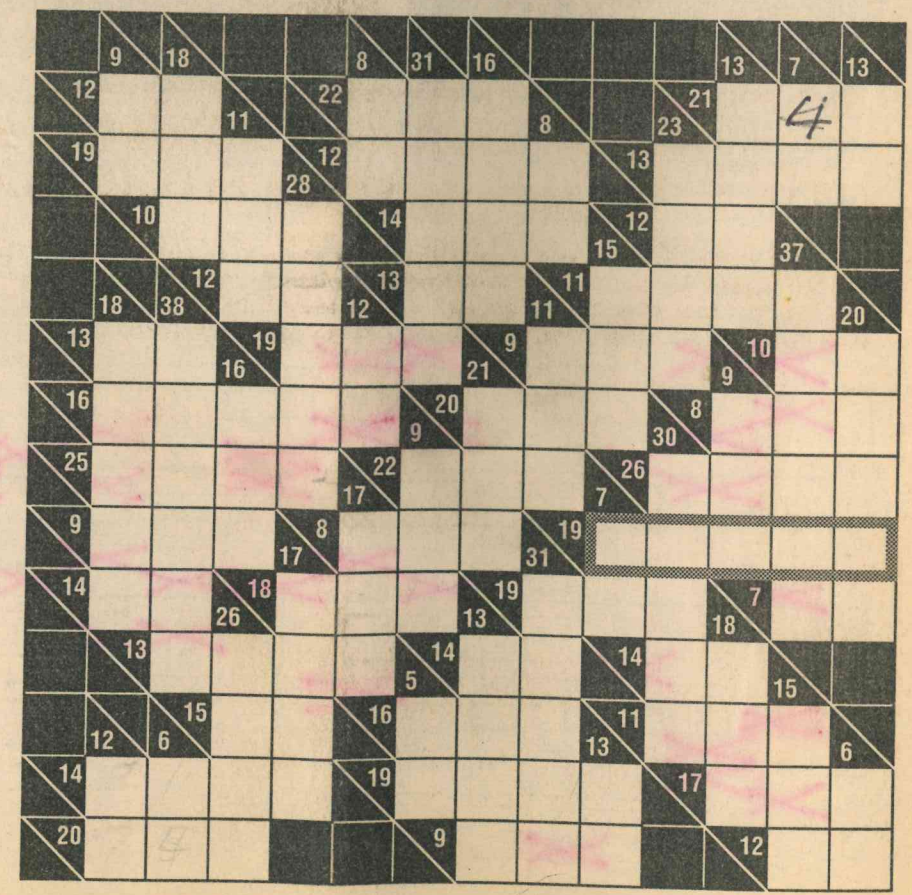
If you need help starting a puzzle, the digit combination to go into its outlined area is listed on page 65.



See page 8 for solving directions.

Solutions are on page 59.

NUMBER 16



LOGIC PROBLEM

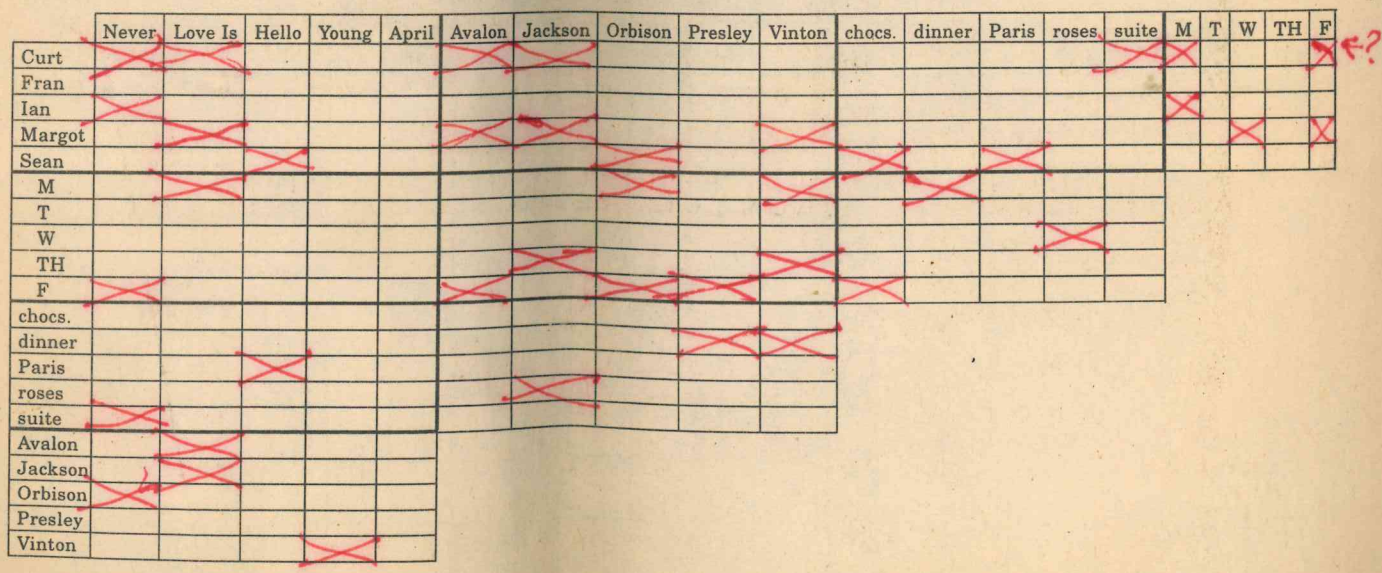
10. THE LOVE GAME

by Randall L. Whipkey

As part of its Valentine's Day promotion, radio station WCOZ played the Love Game, a week-long contest for which the station played the word "love" from an oldies song each morning and the first listener to call and identify the song won a prize to share with his or her Valentine. Can you identify the song played each day Monday through Friday (Pat Boone's "April Love" was one day's mystery tune), the full name (one first name is Fran) of the WCOZ listener who correctly named the song, and the prize he or she won in the "Love Game"?

1. Margot won the day before Vinton did.
2. Curt and Jackson, neither of whom won by identifying the Troggs' hit "Love Is All Around," were first-time WCOZ prizewinners.
3. The two dozen long-stemmed red roses weren't given away on Wednesday.
4. Margot's winning song wasn't "Love Is All Around."
5. Orbison won earlier in the week than Curt did.
6. Vinton isn't the one who won dinner for two at Chez Fernand.
7. Sean, who didn't win the pound of chocolates, isn't the person who won by knowing the Doors' "Hello I Love You."
8. Avalon won the day before the prize winner who named "Love Is All Around" as the song of the day.
9. Ian won his prize later in the week than the person who identified the Association's "Never My Love. "
10. The pound of chocolates wasn't Friday' s prize.
11. The dinner for two at Chez Fernand was given away the day after Presley won a prize at the Love Game.
12. The night's stay in the Hotel de la Ware's Honeymoon Suite, which wasn't won by Curt, didn't go to the person who recognized "Never My Love."
13. Orbison, who didn't win Monday's contest, isn't the one who won by identifying "Hello I Love You."
14. Jackson won the contest the day after the roses were the prize.
15. Margot, who isn't Avalon, didn't win on Wednesday.
16. The weekend in Paris didn't go to the prize winner who identified "Hello I Love You."
17. Vinton isn't the person who won by recognizing Sonny James' hit "Young Love."

Solution is on page 62.



WORD ARITHMETIC

Solving directions are on page 9. Solutions are on page 65.

28.

0 1 2 3 4 5 6 7 8 9

```
      PARE
ROAR | WRAPPERS
     WAAAA
      PEREE
     PWSEW
      UPCUR
      TSORA
       UREAS
      UPPPW
       STOP
```

29.

0 1 2 3 4 5 6 7 8 9

```
      CAY
9821 | 6732681
TAIL | COMICAL
     YATIC
      ASFFA
      OAYCA
       YSSFL
       STLFY
        YITC
```

30.

0 1 2 3 4 5 6 7 8 9

```
      RUN
USE | ONION
     USE
      CCUO
      EORP
       ULON
       UPUO
        LCR
```

31.

0 1 2 3 4 5 6 7 8 9

```
      GAS
9007 | 2135531
COOS | GRAMMAR
     RIORN
      AANRA
      GSOGR
       UACGR
       UAONC
        ISG
```

32.

0 1 2 3 4 5 6 7 8 9

```
      SING
NONE | GALLOPS
     NONE
      ONEOP
      OIPLD
       NSINS
       OGIDO
        PIED
```

33.

0 1 2 3 4 5 6 7 8 9

```
      TIN
RUG | BRINGS
     BULI
      GLUG
      ERBI
       GIIS
       GLLL
        LTG
```

34.

0 1 2 3 4 5 6 7 8 9

```
      DO
CUT | CLOYS
     CSYO
      YSOS
      YMUI
       IDI
```

35.

0 1 2 3 4 5 6 7 8 9

```
      TOR
367 | 96875
RON | COINS
     NRA
      TRAN
      TTUT
       LASS
       LLULL
        RSA
```

36.

0 1 2 3 4 5 6 7 8 9

```
      BUS
145 | 92745
ARE | STORE
     YOM
      EOR
      RUE
       AUSE
       AUME
        SM
```

* Yes, Debby, that's what I do when I don't get certain numbers — lip

WHAT'S THE ORDER?

We asked a solver on the street to try to guess a four-digit number combination; the solver took four guesses, which appear below. In each try, our solver had at least part of the combination correct, as noted by the symbols appearing next to each guess. An "X" next to the combination stands for a correct digit in its correct place in the combination, and an "O" stands for a correct digit out of its correct order. For example, combination A has been given an O, so one of the four digits 3, 4, 2, and 7 appear in the final combination, but not in the position shown in A. The placement of the symbols does not correspond to any particular place in the combination. Using the four graded guesses together, can you deduce the correct combination?

A.	3 4 2 7	O
B.	7 2 5 8	X
C.	3 1 8 6	XO
D.	4 2 9 1	XO

Solution is on page 63.

SQUARE LOGIC

Each letter in the diagram below stands for a number from 1 through 36. Using the ten clues, can you deduce the number represented by each letter? As you will see from the clues, when all the numbers have been correctly entered into the diagram, it will be a Magic Number Square. As each number from 1 through 36 is used only once (clue 1), you will find it helpful to cross out each number as you place it in the diagram (remember to cross out "32," which has already been entered).

Solution is on page 65.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

CLUES

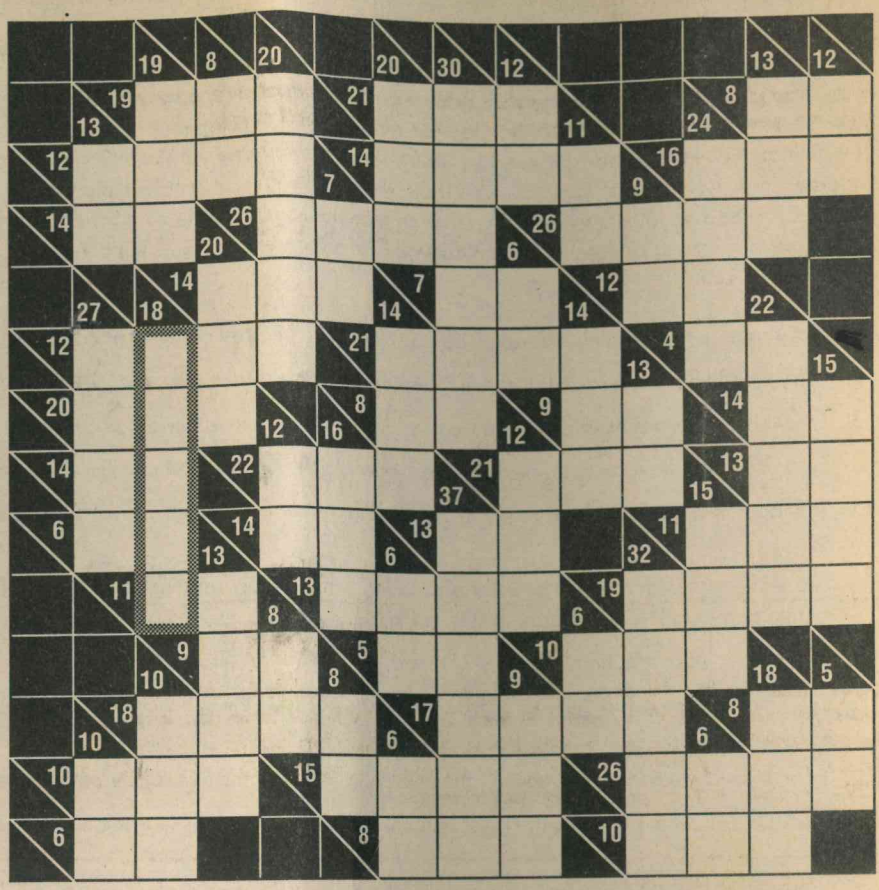
1. Only the whole numbers from 1 to 36 are used and each number is used only once.
2. The six numbers in each row across, each column down, and each of the two diagonals add up to 111.
3. P is four times X; X is four times A.
4. F is two times JJ, three times J, four times E, and six times Z.
5. EE is the sum of A and JJ.
6. G is seven times FF; O is seven times M.
7. GG is half of V and one-fifth of G.
8. K is half of N and one-third of S.
9. T, I, and H are consecutive numbers, in order.
10. CC is two more than BB.

A	B	C	D	E	F
G	H	I	J	K	L
M	N	O	P	Q	R
S	T	U	V	W	X
Y	Z	AA	BB	CC	DD
EE	FF	GG	HH	II	JJ

CROSS SUMS

NUMBER 17

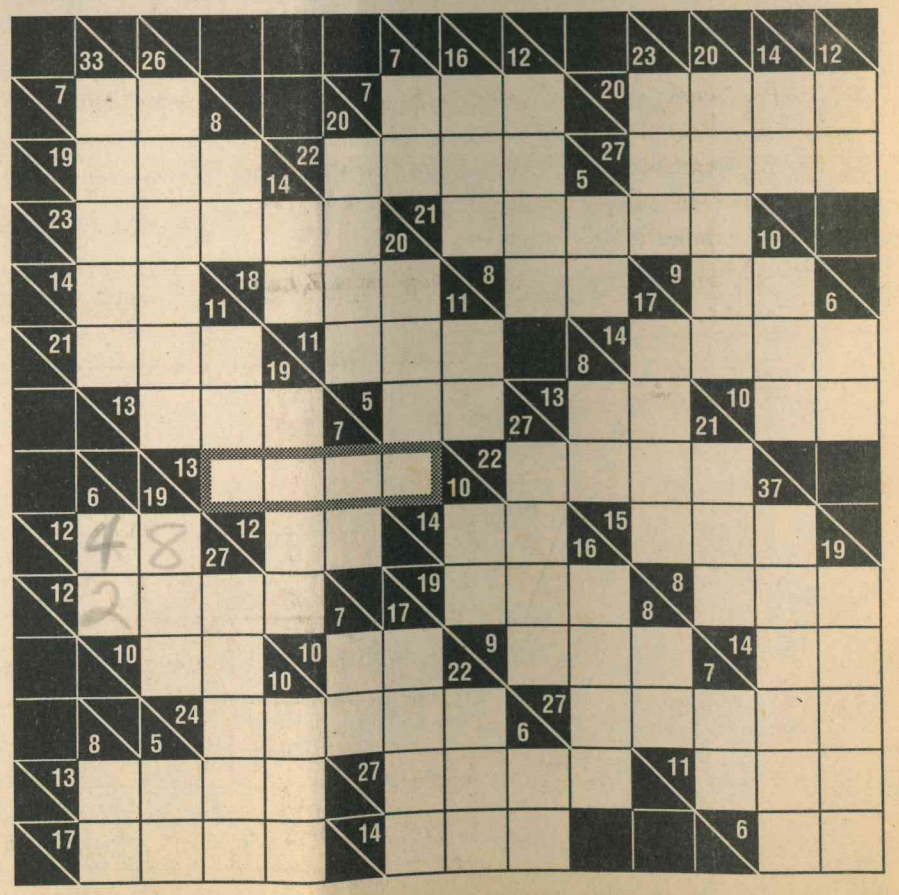
If you need help starting a puzzle, the digit combination to go into its outlined area is listed on page 65.



See page 8 for solving directions.

Solutions are on page 59.

NUMBER 18



LOGIC PROBLEM

11. MODEL TRAIN MEET

by Jean M. Hannagan

In an effort to attract new membership and as a special treat for the town, Mr. Klar and other members of the Misty Harbor Model Train Society decided to create a spectacular model layout. Each member agreed to lend one prized freight car for the occasion. Competition was keen as to how the cars would be displayed and the members finally decided that the train would be assembled in the order in which the cars were received (for example, the first car lent was placed just behind the engine and the others followed in order). Cary and six others were the first seven members to contribute cars, and theirs became the first train. Each car is a different color (one is maroon) and each is marked to carry a different cargo (one carries orange juice). From the following clues, can you assemble the train?

1. Barry's car is immediately ahead of Barr's. Neither is the gray car, which was loaned before the coal car.
2. Perry and Mahr are two of the club's founding members. Mahr does not own the yellow car, which is next to the orange car.
3. The white car is not next to the gray car, which is not marked either oil or chemicals. Jerry did not lend the oil car.
4. Gary and Barr have been in the club the longest. Gary donated the car just ahead of Carr's.
5. The log car does not belong to either Larry or Jerry. Larry's car, which was placed some time after Farr's coal car, is not the oil car.
6. The white car, which does not belong to Gary, is more than one car ahead of the black car. The banana car, which also does not belong to Gary, is not gray and is not last.
7. Harry Garr's contribution, which is not third, is somewhere before the log car.
8. The banana car is just behind Barr's. Barr does not own the car marked chemicals, which is somewhere ahead of the green car.
9. Paar, who is the newest member of the club, does not own the log car. Jerry does not own the gray car.
10. The milk car, which is not last, is just behind Carr's. Neither of these is the one loaned by Barry, which is not green.

Solution is on page 62.

Use the space below to solve.

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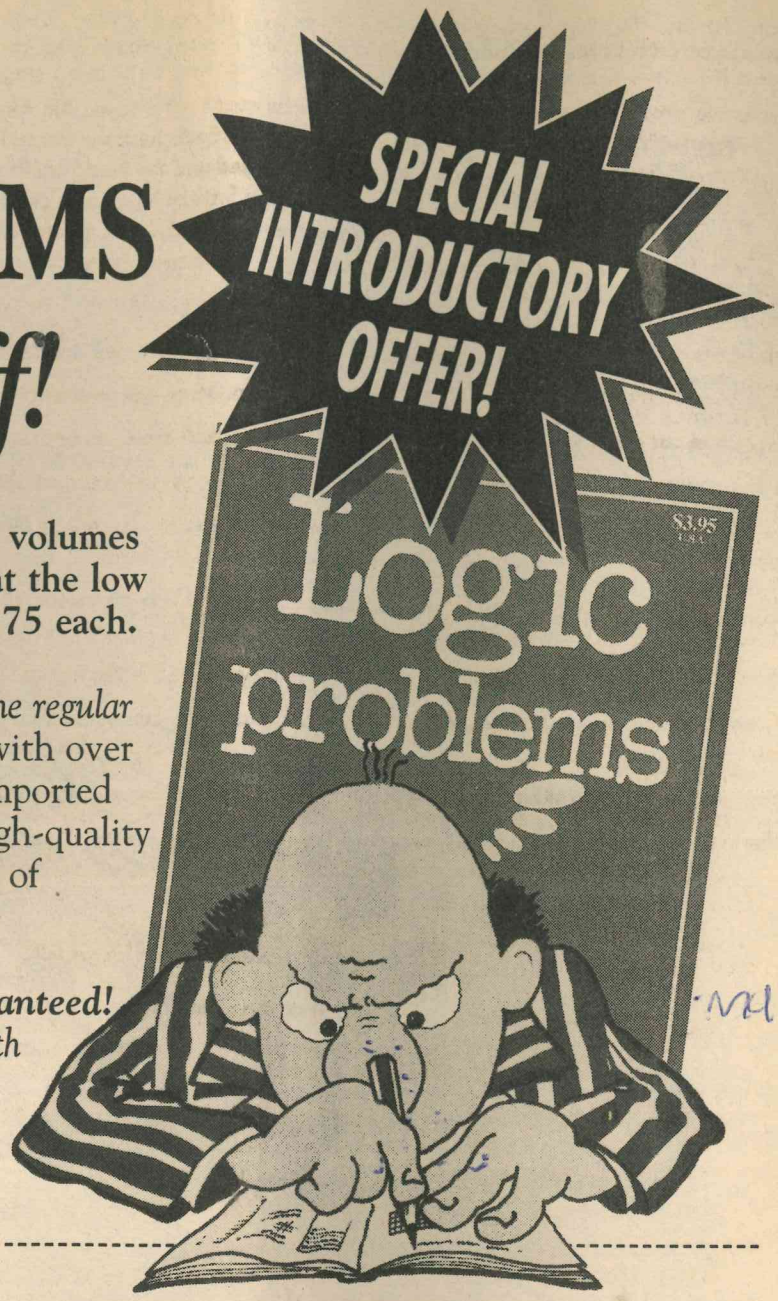

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FIGURE LOGIC 9

Directions for solving Figure Logics are on page 7. This puzzle is a cube — so instead of entering numbers in two directions, you will enter numbers in three. Direction A goes down and to the left, Direction B goes down and to the right, and Direction C goes across. If you need it, a starting help is on page 65. **Solution is on page 60.**

DIRECTION A

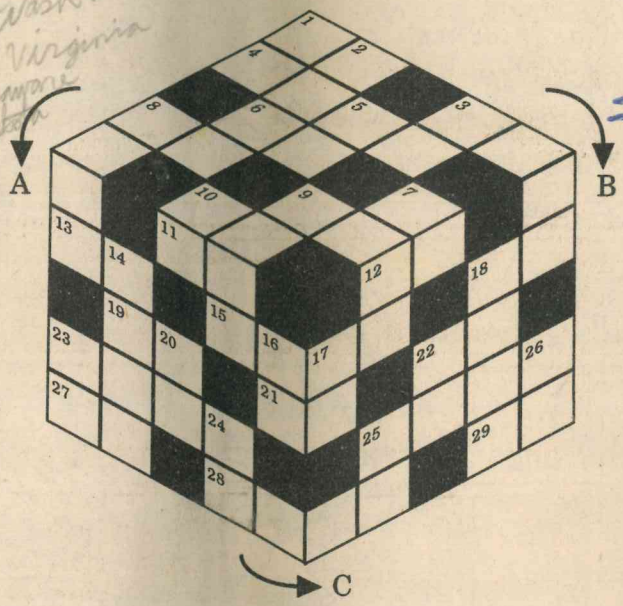
1. 20-A minus 29-C
2. 10-A times 18-C
3. 7-B plus 25-B
5. Twice 17-B
7. 10-B divided by the first digit of 19-C
8. 9-B plus 14-A
9. 17-B times 19-C, plus 1-A
10. Twice 12-C
14. 4-B minus 15-C minus four
16. 3-A minus 5-A
20. One less than 21-C
23. 5-A plus 16-A
24. Average of 10-B and 26-B

DIRECTION B

1. Twice 7-B
3. 2-A plus 9-A minus seven
4. 24-A times 22-C, minus 7-A
6. One more than 17-B
7. Twice the first digit of 3-A
8. 1-A plus 21-C
9. 3-B minus 18-B
10. Two more than 23-A
17. Ten less than 21-C
18. 10-B times the reverse of 10-A
22. 1-A plus 13-C
25. 3-A reversed
26. Average of 19-C and 22-B

DIRECTION C

11. 20-A plus 29-C
12. 11-C minus 16-A
13. Two less than 1-B
15. 13-C times 18-C
18. 10-B minus 1-B
19. 5-A plus 29-C
21. An odd number
22. 11-C plus 16-A
23. Square of 23-A
25. 4-B plus 21-C
27. 5-A minus 7-A
28. 1-A times 1-A
29. Average of 7-A and 16-A



RL 10	MH 24	MA 25	E 3
MC 26	M 2	RJ 19	RA 15
RH 14	MK 28	RE 13	T 7
RM 12	K 8	A 5	ET 37

SECRET SQUARES

The sum of the numbers in each row, column, and long diagonal of the magic number square on the left equals 62. However, each of its digits 0 through 9 has been replaced by a different letter of the alphabet. It's your job, then, to determine the numbers that should be written in the 16 squares. As a starting hint, we'll tell you that A equals 5. **Solution is on page 60.**

COLLECTIBLES

Polly Glass collects miniature bottles. She keeps bottles of three colors – yellow, blue, and green – in a curio cabinet six shelves high with six cubbyholes on each shelf. Each row, column, and the two diagonals contain exactly two of each color bottle. Using the information below, can you determine what color bottle is in each cubbyhole in the cabinet?

Solution is on page 58.

In row 1, the two yellow bottles are not adjacent.

In row 2, at least one end cubbyhole does not contain a blue bottle.

In row 3, at least one of each color bottle is immediately above a bottle of the same color in the row below.

In row 4, one yellow bottle is immediately between the two green bottles.

In row 5, at least one yellow bottle is in a cubbyhole adjacent to an end cubbyhole.

In row 6, one green bottle is in one of the two end cubbyholes, and the other is in one of the two middle cubbyholes.

In column A, exactly one blue bottle is in an end cubbyhole.

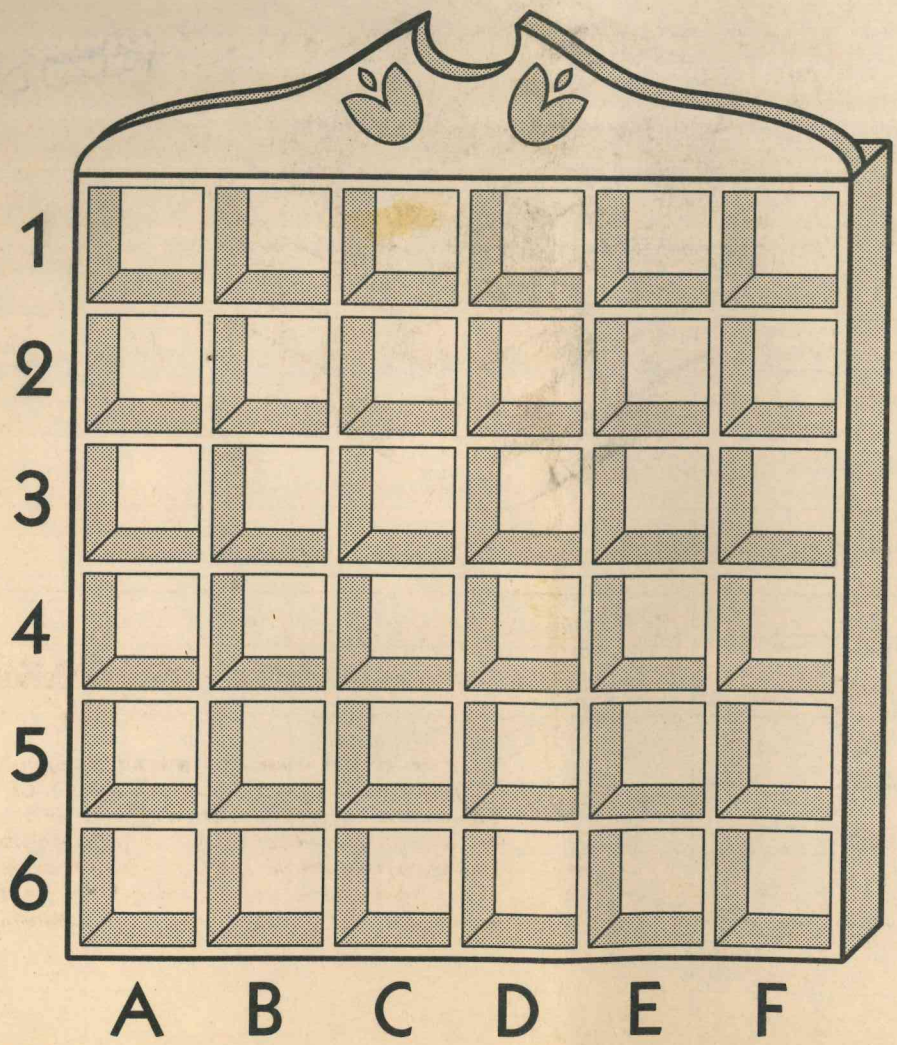
In column B, one blue bottle is immediately between the two yellow bottles.

In column C, neither of the two middle cubbyholes contains a green bottle.

In column D, exactly one of the two end cubbyholes contains a yellow bottle.

In column E, the two yellow bottles are adjacent.

In column F, the two blue bottles are not adjacent.



LOGIC PROBLEM

12. A PAIR OF QUINTETS

by Kevyn Dymond

The Happy Heights Symphony Orchestra has always been comprised of volunteers from the community. Every year, they present a schedule of concerts during their symphony season running March through June. Upon completion of the symphony's 15th season, ten of the volunteers elected to regroup into two smaller ensembles, string quintets, for the purpose of playing chamber music. Five of the volunteers formed The Baroque Quintet and the remaining five formed The Classical Quintet. Each quintet featured five instruments: two violins, one viola, one cello, and one double bass. Each of the ten musicians had performed for a different number of years from six to 15 with the symphony, and each had a different type of day job. For each of the ten musicians, can you determine his or her full name (one first name is Ben and one last name is Cohen), musical instrument, regular job, number of years with the symphony, and which of the two quintets each joined?

1. The four violinists are Eric, Ms. Baker, the locksmith, and the 8-year symphony volunteer.
2. Blythe Dupree and the gardener both play viola.
3. Both cello players were the same sex.
4. The two double bassists (Alice and the zookeeper) have combined symphony experience exactly equal to the symphony experience of Carter (who isn't the writer).
5. Three people who play different types of instrument (all three played in the same quintet) are Elke (who has played with the symphony one year longer than Brown), Carol, and Mr. Davis (who isn't Andrew).
6. The plumber, the mechanic, the hairstylist (who has played in the symphony one year longer than someone else from the same quintet), and the teacher each play a different type of instrument.
7. No one has the same first and last initial; no two people have the same pairs of initials in any order.
8. Erdman (who doesn't play cello) is the 11-year symphony volunteer.
9. Chad and the plumber play in the same quintet.
10. Ms. Atkins doesn't play violin.
11. Dan is the optometrist.
12. Mr. Evans (who has the least symphony experience of the ten musicians) plays with The Baroque Quintet.
13. The janitor, who has played in the symphony twice as long as Anderson, and the writer both play the same instrument, but in different quintets.
14. Denise has two years more symphony experience than the teacher; both play in the same quintet.

Solution is on page 63.

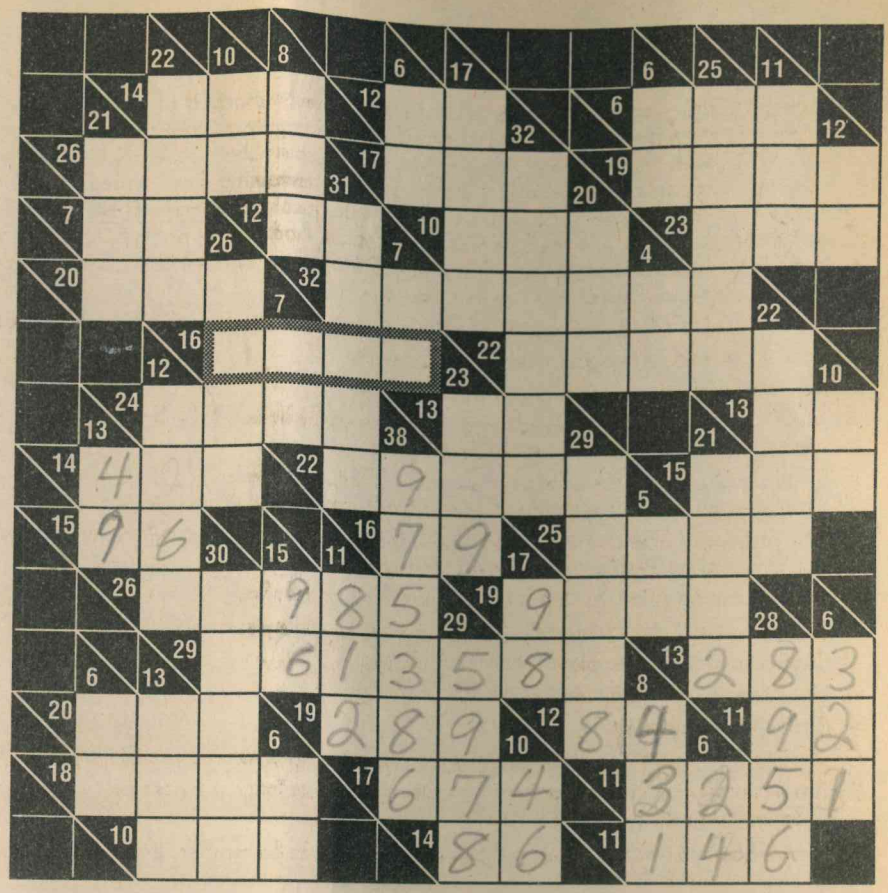
The chart below was found to be most useful in solving.

	First	Last	job	# years	quintet
bass					
bass					
viola					
viola					
cello					
cello					
violin					
violin					
violin					
violin					

CROSS SUMS

NUMBER 19

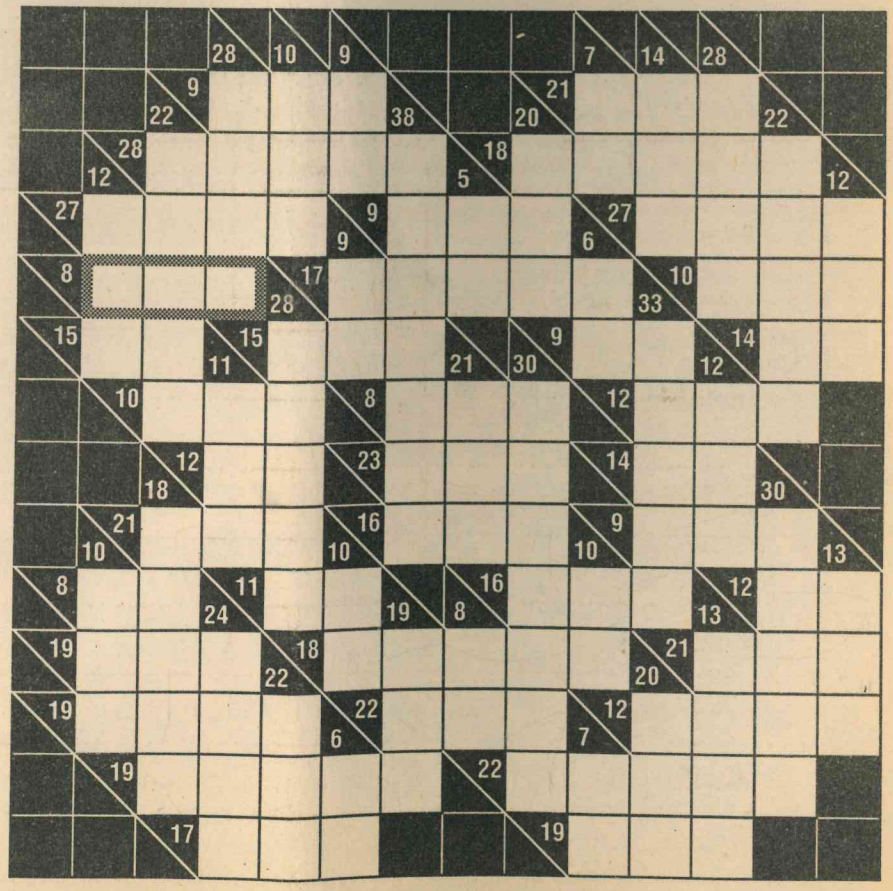
If you need help starting a puzzle, the digit combination to go into its outlined area is listed on page 65.



See page 8 for solving directions.

Solutions are on page 59.

NUMBER 20



WORD ARITHMETIC

Solving directions are on page 9. Solutions are on page 65.

37. HE

0 1 2 3 4 5 6 7 8 9

```
          EYE
      ┌──────
FATE  │ TRUDGE
      FATE
      ----
      EETRG
      EHDFY
      ------
        YUEE
        FATE
        ----
        ERRH
```

38. DARKCLOSET

0 1 2 3 4 5 6 7 8 9

```
          COT
      ┌──────
TORE  │ CLASSES
      KELAR
      -------
        OOOLE
        LSSOE
        -----
          EETDS
          EOOLR
          -----
            RRLL
```

39. TURNOFAKEY

0 1 2 3 4 5 6 7 8 9

```
          ROOK
      ┌──────
YEN   │ ROTATOR
      UYAA
      ----
        OOTT
        NYNR
        ----
          OAEO
          NYNR
          ----
            KFRR
            AEEU
            ----
              AOU
```

Cheapo!

40. PATCHYSNOW

0 1 2 3 4 5 6 7 8 9

```
          TO
      ┌──────
CANS  │ WANTS
      SCYT
      ----
      TOTPS
      TYHPO
      -----
       TNWO
```

41. O

0 1 2 3 4 5 6 7 8 9

```
          ORE
      ┌──────
EASE  │ STRODE
      EASE
      ----
      ODETD
      OADTE
      -----
        IGSE
        AFRA
        ----
        EORF
```

42. _____

0 1 2 3 4 5 6 7 8 9

```
          ALL
      ┌──────
EKE   │ PARTED
      PREA
      ----
        EKUE
        PARK
        ----
          ERUD
          PARK
          ----
            CRC
```

43. GREAT

0 1 2 3 4 5 6 7 8 9

```
          ME
      ┌──────
YEAR  │ BARTER
      BRYAS
      -----
        OORMR
        OGYRB
        -----
          OEES
```

44. CUPSOFWINE

0 1 2 3 4 5 6 7 8 9

```
          WEE
      ┌──────
FEN   │ OUNCES
      SFNN
      ----
        FEPE
        FSNP
        ----
          FOIS
          FSNP
          ----
            EU
```

45. BLUEOY

0 1 2 3 4 5 6 7 8 9

```
          LOB
      ┌──────
SORE  │ REPEALS
      RBAOR
      -----
        EOSPL
        EOBSU
        -----
          SRYS
```

LOGIC PROBLEM

13. BRIAN'S BOOTERY

by David Champlin

Brian Brightshine's Texas Bootery specializes in making hand-tooled leather cowboy boots of unsurpassed beauty and durability. Brian's prices are somewhat high, but many well-heeled gentlemen who demand the highest quality in Western footwear don't seem to mind paying for the unique styling and perfect fit Brian's shop guarantees. Last week, six local clients, including Mr. Ibanez, each came into the bootery on a different day between Monday and Saturday to pick up a pair of custom-made boots he had ordered; no two men had the same profession, and no two men had ordered boots made of the same color of leather. Because each pair of boots was specially crafted to incorporate specific features requested by each purchaser, no two pairs of boots cost the same amount of money (one pair cost $350). From this information and the clues given below, can you determine the full name and profession of each customer, the color of boots he ordered, the cost of each pair of boots, and the order in which the six orders were claimed?

1. Mr. Landon's boots were picked up the day before the tan pair, which were picked up the day before the most-expensive $600 boots. The boots Henry ordered were picked up earlier in the week than the pair ordered by the businessman. (Note: Five different pairs of boots are mentioned in this clue.)
2. The cost of the boots Edgar ordered (which weren't picked up on Friday) was the exact average of the cost of the burgundy boots and the boots ordered by the TV talk-show host.
3. The country-western singer picked up his boots the day before Mr. Mills claimed his order. The cordovan boots (which weren't Frank's), were picked up two days before the pair Curtis ordered. (Note: Four different pairs of boots are mentioned in this clue.)
4. The six orders were: Dave's boots, Mr. Novello's boots (which cost over $400), the brown boots, the boots ordered by the professional athlete, the boots that cost exactly $500, and the boots that were picked up on Saturday.
5. The boots ordered by the rancher cost $100 less than the pair Greg bought, which cost $100 less than the pair Mr. Koji purchased. The boots that were picked up on Thursday cost $100 less than the gray boots. (Note: Five different pairs of boots are mentioned in this clue.)
6. Curtis, who isn't the businessman, bought a pair of boots that was less expensive than either the black boots or the tan boots. Curtis' order and Greg's order weren't picked up on consecutive days.
7. Frank's boots were picked up the day before Mr. Jameson's boots, which were picked up the day before the boots ordered by the oilman (who isn't Henry).
8. The boots picked up on Wednesday (which weren't ordered by Dave) weren't burgundy-colored.
9. Mr. Koji and the businessman (who didn't buy the black boots) are both longtime customers of Brian's Bootery.

Solution is on page 63.

Use the space below for solving.

CROSSMATH

This looks like a crossword, but it involves numbers, not words. The numbers given in the clues columns are the answers to simple math problems; the numbers you enter into the diagram will form the problems which result in those answers. All the arithmetic symbols (+, -, x, ÷) have already been entered into the appropriate squares in the diagram. Use the symbols, the crossing numbers, and a bit of logic to determine the digit to enter into each blank square (one digit per square). An important thing to remember: The arithmetic is to be done in the order in which it reads, from left to right or top to bottom — for example, 1 + 2 x 3 equals 9 (1 + 2 = 3; 3 x 3 = 9). If done in any other order, your solution won't work. Arithmetic signs at the beginning or end of a problem (as in 18-Across) should be ignored. You will never use zero as the first digit of a number, though there may be zeroes used as later digits. There are no negative numbers used here; nor are there any fractions used. **Answer is on page 60.**

ACROSS

1. 246
4. 42
8. 67
11. 65
12. 57
15. 33
16. 54
17. 456
19. 302
20. 76
22. 35
24. 79
25. 120
26. 12
27. 63
28 3
29. 16
30. 12
33. 59
36. 21
38. 54
41. 7
42. 402
43. 5
45. 45
46. 14
48. 36
50. 52
51. 26
52. 9
53. 165
54. 36

DOWN

1. 2
2. 48
3. 234
4. 41
5. 125
6. 6
7. 451
8. 311
9. 2
10. 340
11. 162
13. 3
14. 14
18. 28
20. 2
21. 0
23. 18
25. 12
27. 49
29. 495
30. 695
31. 8
32. 10
33. 18
34. 3
35. 16
37. 1
38. 9
39. 2345
40. 613
42. 314
44. 5
47. 10
49. 4

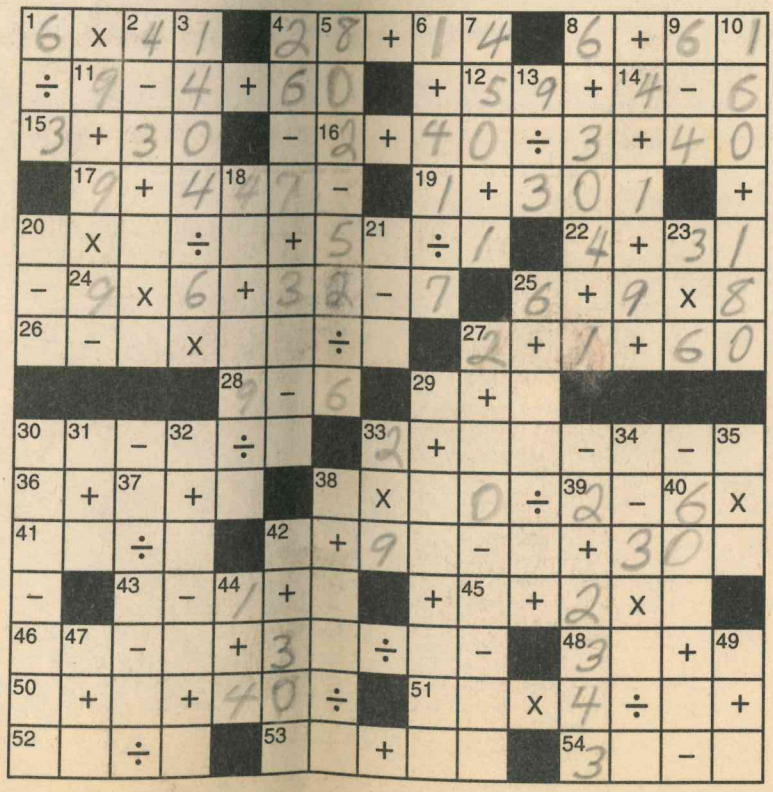


FIGURE LOGIC 10

CHALLENGER

Directions for solving are on page 7. If you need help starting this puzzle, a help is on page 65.

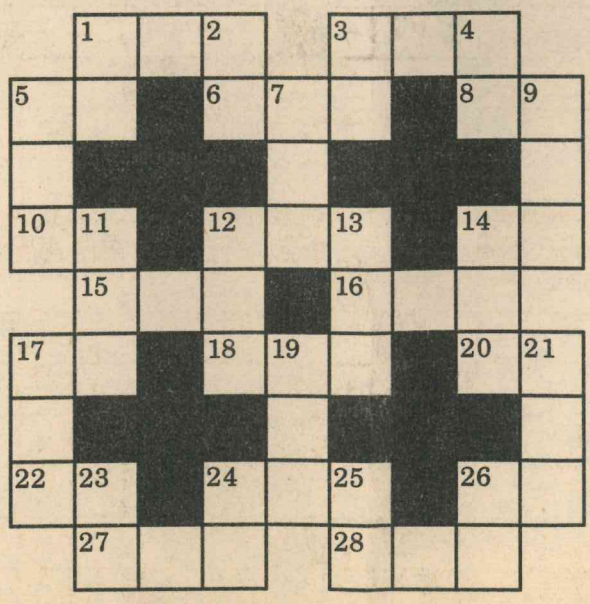
When the members of the E.A.T.S. (Economical Approach to Shopping) food co-op met this month to place their orders, they all heard Marcie talk enthusiastically about her new muesli recipe. "It's simple, nutritious, and cheap," she said. "Just combine 2 cups rolled oats, 1/4 cup raw almonds, and 1 cup pitted dates in your Vitamix or food processor. Turn it on briefly just to chop the almonds and dates. Add 2 more cups of rolled oats and 1 cup of raisins and pour the mixture into a storage container. You'll have about 10 half-cup servings. Eat it moistened with milk or juice or water and add fresh fruit if you like." As a result of this bright idea, many people ordered extra almonds, dates, rolled oats, and raisins, and Marcie was invited to help unload the truck when the heavy bags and boxes arrived from the warehouse. After delivery, three bags of oats were set aside, as were three boxes each of almonds, dates, and raisins; some people had purchased full bags or boxes. However, most people wanted smaller amounts, so several members spent a sociable afternoon weighing out three-pound and seven-pound bags of food. When they were done they had twice as many 3-pound bags of almonds as 7-pound bags of dates and the large opened bags and boxes were empty. Can you determine the figures called for below?

ACROSS

1. Two times weight of 7-pound bags of raisins
3. Total weight of 3-pound bags of almonds and dates
5. Weight of one box of dates
6. Eight times the total number of 3-pound and 7-pound bags of almonds
8. Number of 7-pound bags of oats
10. Total number of 3-pound and 7-pound bags of almonds
12. Total weight of dates ordered
14. Weight of one bag of oats
15. Number of 3-pound bags filled
16. Weight of 7-pound bags of raisins
17. Number of 7-pound bags of dates
18. Total weight of almonds ordered
20. Number of 3-pound bags of raisins
22. Weight of 3-pound bags of almonds
24. Weight of 7-pound bags of oats
26. Number of 3-pound bags of oats
27. Ten more than the weight of 3-pound bags of oats
28. Two times weight of 3-pound bags of dates

DOWN

1. Weight of one box of almonds
2. Total number of 3-pound and 7-pound bags of dates
3. Total number of boxes of almonds ordered
4. Weight of 7-pound bags of dates
5. Total number of 7-pound bags filled
7. Eight times number of 7-pound bags of almonds
9. Total weight of raisins ordered
11. Thirteen times the number of 3-pound bags of almonds
12. Weight of 7-pound bags of almonds
13. Ten times the number of 3-pound bags of raisins
14. Total weight of almonds and dates ordered
17. Total number of 3-pound bags of almonds, dates, and raisins
19. Total weight of oats ordered
21. Weight of 3-pound bags of raisins
23. Number of 7-pound bags of raisins
24. Three times the number of boxes of raisins ordered
25. Number of bags of oats ordered
26. Number of 3-pound bags of dates



Solution is on page 60

LOGIC PROBLEM

14. COUPONS COUNT

by Mary A. Powell

The Handy-Save Variety store always had a big jump in business at the beginning of the month after sending coupon books to everyone in the community. Because it was such a small community, the clerks had known the customers for many years, and were reasonably familiar with the types of items they tended to buy. It was, therefore, no great surprise that five of these customers each cashed in the same five coupons on the same day. Nor did it surprise anyone that each also cashed in a sixth coupon that was not identical to that of the other four. Quantities were limited to 5 or less on each coupon. From the following clues, can you find the full name of each of these five customers, the items, number of items and cost of the items each bought, and the total amounts spent?

1. No two of these customers bought the same total number of items; no two spent the same total amount.
2. Brett bought the greatest number of items; Mr. Storehouse bought the fewest. Brett spent $3.50 more than Storehouse.
3. Clyde bought twice as much candy and half as many cookies as Ms. Charger.
4. Sally bought more paper towels than Yolanda; Yolanda bought four times as much masking tape as Sally; Yolanda spent $1.00 more on paper towels than Sally did on masking tape.
5. Mr. Price bought twice as much candy and three times as much toothpaste as Yolanda; Yolanda bought twice as many cookies as Mr. Price.
6. Ms. Buyer bought the same amount of candy and the same amount of toothpaste as Gilbert; Ms. Buyer bought twice as many cookies as Gilbert.
7. Eleven tubes of toothpaste were sold. The total amount spent for toothpaste was $4.50 more than for masking tape, and $7 less than for candy.
8. The woman who bought canned luncheon meat spent a total of $16.00.
9. Ms. Sales spent $4 on candy and $2.50 on laundry soap.
10. The man who bought a bottle of vitamins bought a total of 11 items.
11. The person who spent $6 on lipstick also spent $3 on cookies.
12. Yolanda bought more items and spent more money than Sally.
13. Clyde spent twice as much on candy as he did on toothpaste; Gilbert spent twice as much on toothpaste as he did on paper towels.
14. Brett spent the same on paper towels as she did on masking tape.
15. The person who bought two boxes of greeting cards spent the most; the person who spent $1.00 on paper towels spent the least.
16. A can of luncheon meat cost the same as a box of cookies.
17. Brett and Ms. Sales had bills that totaled even dollar amounts.
18. No single item cost more than $3.00. The price of each item was divisible by 25¢.
19. The five customers bought a total of 65 items; together they spent a total of $75.00.

Solution is on page 64.

Use the space below for solving.

LOGIC PROBLEM

15. PLAYING THE NUMBERS

by Robert Nelson

Larry Lucci, called Lucky Larry by his friends, makes daily bets in his state's numbers game and is surprisingly successful at picking winning three digit numbers more often than the 1 in 1000 odds of doing so would predict. Whether it really helps or not is uncertain, but Larry analyzes past winning numbers in the belief that they will provide clues that increase his chances of picking future winners. In one recent ten-day stretch, he noticed a very unusual sequence of winners. From the following clues, can you identify each day's winning number?

1. No three-digit number contained any digit more than once.
2. The lowest difference between any two sequential numbers was 25 between the Day 7 and 8 numbers.
3. The highest difference between any two sequential numbers was 159 between the Day 4 and 5 numbers.
4. The only digits which appeared in the third position before appearing in the second were 2, 4, 5, and 6.
5. The difference between the first and tenth day's numbers was 849.
6. No digit appeared on three sequential days, but the digits 3, 5, and 9 (only) all appeared within four-day stretches.
7. Each day's number was higher than the prior day's and each of the digits 0-9 appeared just once in each of the three positions.

Solution is on page 63.

Use the space below for solving.

NUMBERAMA

A. 37 (–17 +27 –18 +27 –19 +27 –20 +27)
B. 4 (x4 x4 –22 –22 x4 x4 –22 –22)
C. 49 (÷7 +3 x2 +37 ÷7 +3 x2 +37)
D. 3 (x16 ÷8 +6 –5 x16 ÷8 +6 –5)
E. 18 (+10 –6 ÷2 +11 –6 ÷2 +12 –6 ÷2)
F. 11 (–6 x2 x2 +3 –7 x3 x3 +4)
G. 12 (÷12 +15 –12 +6 ÷12 +15 –12 +6)
H. 28 (x5 ÷2 – 8 x4 ÷2 – 8 x3 ÷2 – 8)
I. 8 (– 3 x6 +12 –10 –2 x5 +11 –9)
J. 6 (÷2 ÷2 +15 ÷3 ÷3 +30 ÷4 ÷4 +45)
K. 32 (+21 ÷8 – 4 x16 +22 ÷9 –5 x17)

BY THE NUMBERS

1. A=5, B=3, C=1; 2. A=1, B=7, C=0; D=5.

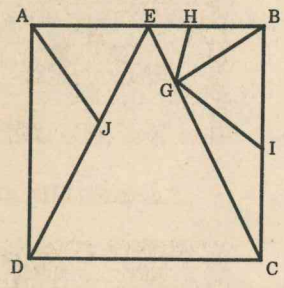
TWISTER

View C is the odd one out. A, B, and D show the block rotated in sequence: the block is rotated counterclockwise and down right one face, so A (CJF) becomes SPJ (B), then B becomes D (VFP). D, when rotated this way, would become A again.

CIRCLE MATH

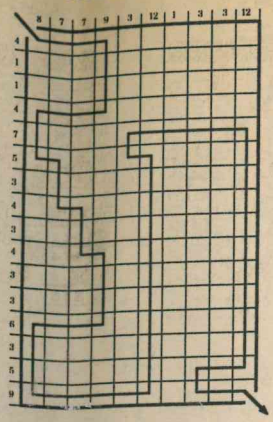
A=2, B=4, C=6, D=8, E=3, F=1, G=9, H=7, I=5.

ISO-METRICS

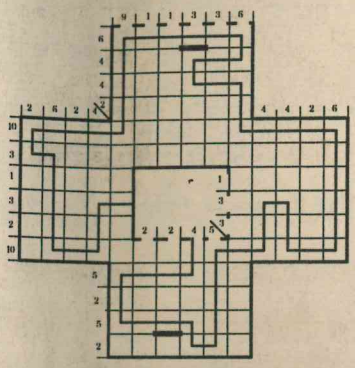


Point E bisects line AB, line BG is perpendicular to EC, point H bisects line EB, point I bisects line BC, and point J bisects line ED.

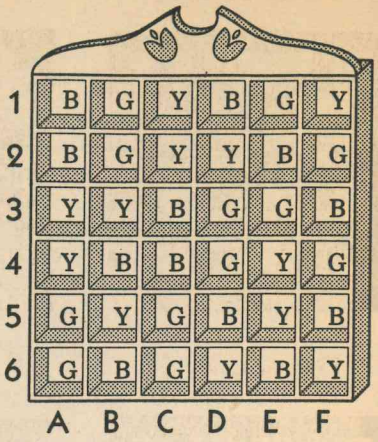
MATH MAZE 1



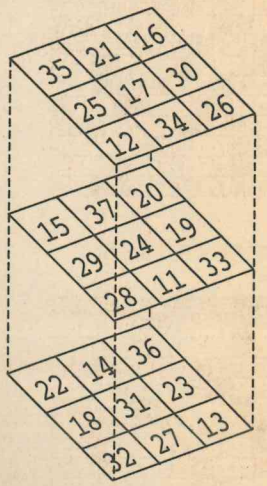
MATH MAZE 2



COLLECTIBLES



THREE-LAYER MAGIC



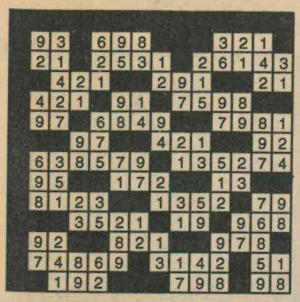
DELL PUZZLE MAGAZINES ON SALE IN FEBRUARY

Dell Crossword Super Special Yearbook #39, $3.50 ($4.95, Canada)	**February 4**
Dell Crossword Puzzles April issue, $1.79 ($2.49, Canada)	**February 4**
Official Pencil Puzzles & Word Games April issue, $1.99 ($2.79, Canada)	**February 4**
Pocket Crossword Puzzles April issue, $1.49 ($1.99, Canada)	**February 4**
Dell Crosswords & Variety Puzzles March issue, $1.79 ($2.49, Canada)	**February 11**
Dell Logic Puzzles April issue, $2.99 ($3.99, Canada)	**February 11**
Dell Pencil Puzzles & Word Games May issue, $1.99 ($2.79, Canada)	**February 11**
Official Word Search Puzzles April issue, $1.99 ($2.79, Canada)	**February 11**
Dell Crossword Annual Spring issue, $2.50 ($3.50, Canada)	**February 18**
Easy Fast 'n' Fun Crosswords April issue, $1.25 ($1.49, Canada)	**February 18**
Dell Pencil Puzzles & Word Games Yearbook Spring issue, $2.99 ($3.99, Canada)	**February 18**
Dell Variety Puzzle Spectacular #39, $3.50 ($4.89, Canada)	**February 25**
Official Crossword Puzzles May issue, $1.99 ($2.79, Canada)	**February 25**

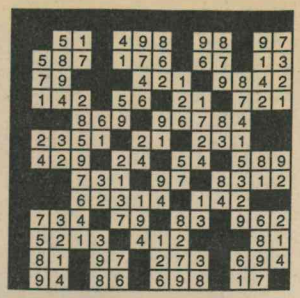
LOOK FOR THESE ON SALE IN MARCH

Pocket Crossword Puzzles May issue, $1.49 ($1.99, Canada)	**March 4**
Dell Word Search Puzzles Jumbo May issue, $1.99 ($2.79, Canada)	**March 4**
Dell Crossword Puzzles May issue, $1.79 ($2.49, Canada)	**March 11**
Dell Champion Variety Puzzles Spring issue, $1.79 ($2.49, Canada)	**March 11**
Official Crossword Yearbook Spring issue, $2.50 ($3.50, Canada)	**March 18**
Dell Pencil Puzzles & Word Games June issue, $1.99 ($2.79, Canada)	**March 18**
Dell Champion Crossword Puzzles May issue, $1.99 ($2.79, Canada)	**March 19**
Official Crossword Puzzles June issue, $1.99 ($2.79, Canada)	**March 25**
Dell Crossword Special Jumbo May issue, $3.50 ($4.95, Canada)	**March 25**

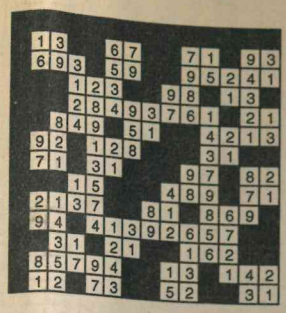
CROSS SUMS 1



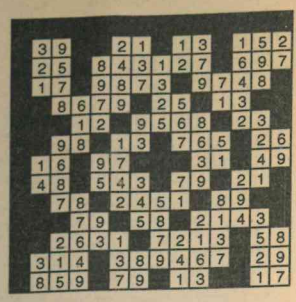
CROSS SUMS 2



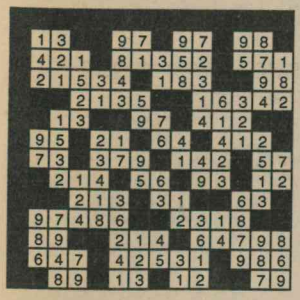
CROSS SUMS 3



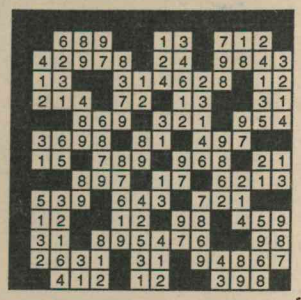
CROSS SUMS 4



CROSS SUMS 5



CROSS SUMS 6



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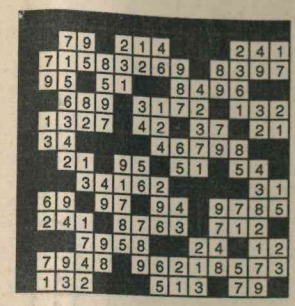

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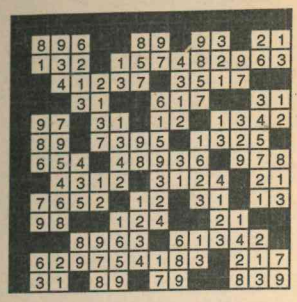

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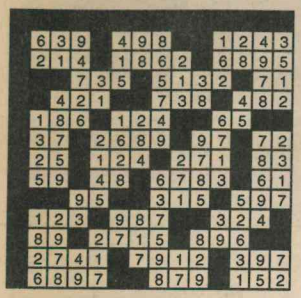

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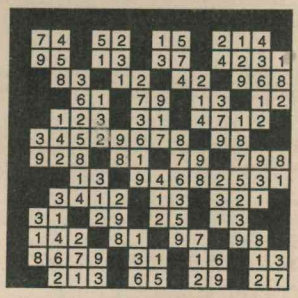

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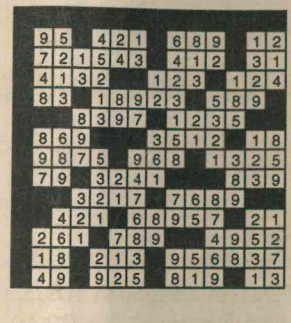

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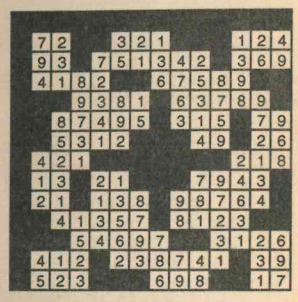

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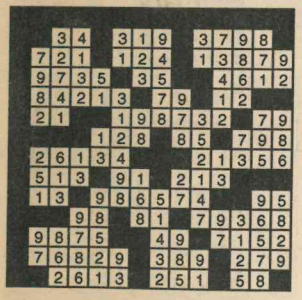

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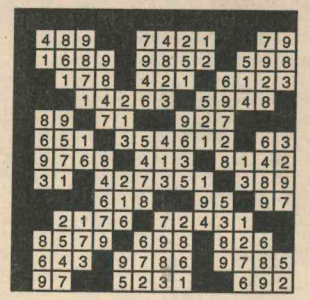

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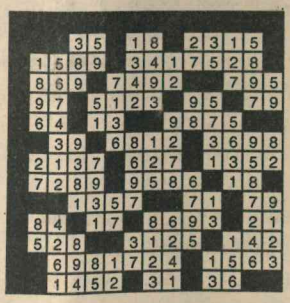

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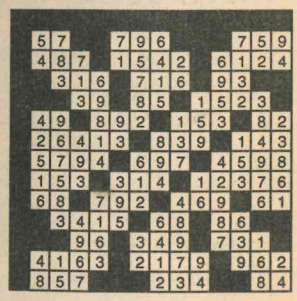

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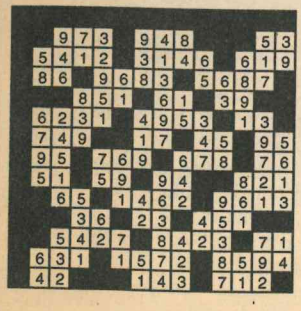

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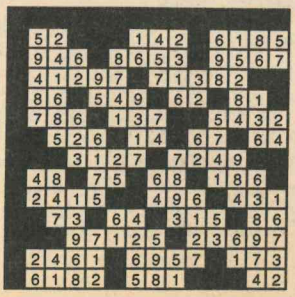

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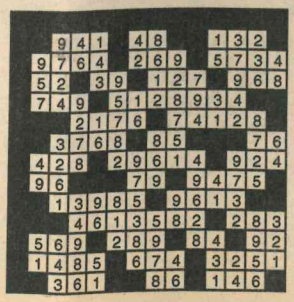

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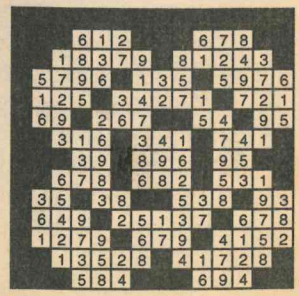


FIGURE LOGIC 1

	5	9	5		2	8	6
7	7		5	9	4		6	7
3		1	0	5	2	7		5
7	1	5		7		3	1	9
	1	9	8		4	6	2	
4	0	7		1		8	1	4
5		2	6	4	9	9		8
1	1		3	3	0		4	4
	3	0	8		2	3	1	

FIGURE LOGIC 2

		1	1		3	3	3
5	1	8	4		9	5	4
9	0		9	3	6		5	4
4	8	1	0	6		6	6	6
			9	5		6	3	
4	6	8		4	8	0	6	9
1	9		3	4	2		1	0
	1	2	6		1	7	2	8
	2	7	0		1	2		

FIGURE LOGIC 3

3	2		2		1	4	1
4	2		6	2	3		3
5	2	1		1	0		7	1
		2	9	0		2		7
2	7	4				5	2	3
4		6		4	2	0		
5	5		4	6		5	1	9
	0		5	6	7		1	6
1	0	1		0		1	7	

FIGURE LOGIC 4

	9	4	2		1	7	1
3	6		5	5	2		2	4
4			2	3	4			8
	4	2	0		2	1	6	
8	5	5				2	0	1
	6	2	1		1	2	0	
3			2	8	8			2
8	7		6	4	8		6	5
	2	4	0		4	6	8	

FIGURE LOGIC 5

1	3		4	6	8		1	7
2	9	2	5		1	2	4	2
	9		9	9	9		4	
6	6	6		1		7	9	2
2		8	1		5	2		0
1	4	4		3		9	2	7
	1		5	3	1		3	
4	3	3	8		5	4	7	2
5	1		5	1	3		6	3

FIGURE LOGIC 6

	7	1	4	3		1	4	7
2	6		6	1	9		2	1
1	4	1			5	1		0
5		4	2	8		4	2	3
	2	2		5		5	4	
3	3	0		6	7	0		3
7		6	4			6	2	3
1	3		3	1	5		1	5
4	3	4		1	8	5	7	

FIGURE LOGIC 7

1	8	7		1		9	5	2
3		1	5	0	2	8		5
6	8		1	0	2		6	5
	3	4	0		1	7	0	
4	5	9				1	1	9
	2	3	8		2	4	1	
5	1		3	7	4		2	4
7		2	3	4	0	9		4
8	6	7		8		6	1	2

FIGURE LOGIC 8

1		6	2		5	3	3
3	4			2	1		8	9
1	0	5		1	3	2	6	
	3	3	8			7	1	5
9		2	1	3	2	0		2
	4	3			6	2	4	
	2	5	3	5		7	4	1
4	6		1	0			2	3
2	4	7		7	8			0

FIGURE LOGIC 10

	2	9	4		1	6	8
1	5		4	2	4		4	3
0			3					9
5	3		2	2	5		5	0
	1	4	0		1	4	7	
1	2		3	5	0		5	1
0			5					5
7	2		3	0	1		3	3
	1	0	9		1	9	2	

SECRET SQUARES

10	24	25	3
26	2	19	15
14	28	13	7
12	8	5	37

NUMBER PLACE 1

3	7	2	1	4	9	8	6	5
4	1	8	6	7	5	9	2	3
5	6	9	2	8	3	1	4	7
7	3	4	9	1	6	5	8	2
1	9	5	3	2	8	6	7	4
8	2	6	4	5	7	3	9	1
6	8	7	5	3	4	2	1	9
2	4	3	8	9	1	7	5	6
9	5	1	7	6	2	4	3	8

NUMBER PLACE 2

8	4	2	9	5	3	6	7	1
6	9	3	1	7	8	5	4	2
1	5	7	2	4	6	3	8	9
3	2	1	5	6	4	8	9	7
7	6	4	8	1	9	2	5	3
9	8	5	3	2	7	4	1	6
4	1	9	6	3	5	7	2	8
2	7	6	4	8	1	9	3	5
5	3	8	7	9	2	1	6	4

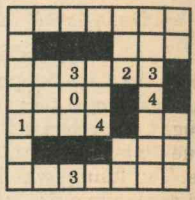
NUMBER PLACE 3

2	4	1	6	7	3	8	9	5
8	3	7	9	1	5	2	4	6
5	6	9	2	4	8	1	7	3
1	7	3	8	6	2	9	5	4
4	9	2	3	5	7	6	1	8
6	8	5	1	9	4	7	3	2
3	5	6	7	8	9	4	2	1
7	2	8	4	3	1	5	6	9
9	1	4	5	2	6	3	8	7

BINGO PLAYS 1

	B	I	N	G	O	
P	9	26	33	50	69	P
L	4	17	31	53	71	L
A	15	18	FREE	59	70	A
Y	8	23	37	60	68	Y
S	5	24	35	52	74	S
	B	I	N	G	O	

BLACK MAGIC 1



NUMBER PLACE 4

1	4	3	9	8	6	5	2	7
9	8	2	5	7	1	3	4	6
6	5	7	4	2	3	9	1	8
2	9	5	8	1	4	7	6	3
8	1	6	2	3	7	4	9	5
7	3	4	6	9	5	1	8	2
4	6	1	3	5	8	2	7	9
3	2	8	7	4	9	6	5	1
5	7	9	1	6	2	8	3	4

NUMBER PLACE 5

9	4	6	1	7	3	2	5	8
8	7	3	5	4	2	1	6	9
2	1	5	6	8	9	3	4	7
5	8	4	9	2	1	6	7	3
7	6	1	4	3	8	9	2	5
3	2	9	7	5	6	4	8	1
4	3	8	2	9	7	5	1	6
6	5	7	3	1	4	8	9	2
1	9	2	8	6	5	7	3	4

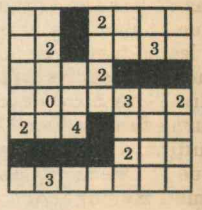
NUMBER PLACE 6

7	4	6	1	3	9	2	5	8
9	3	5	7	8	2	6	1	4
1	2	8	4	5	6	3	7	9
4	7	1	8	6	3	9	2	5
8	5	2	9	1	7	4	3	6
3	6	9	5	2	4	1	8	7
2	9	3	6	7	5	8	4	1
6	8	7	3	4	1	5	9	2
5	1	4	2	9	8	7	6	3

BINGO PLAYS 2

	B	I	N	G	O	
P	9	16	44	49	69	P
L	6	25	40	57	73	L
A	1	28	FREE	52	68	A
Y	7	21	31	60	67	Y
S	12	18	42	58	70	S
	B	I	N	G	O	

BLACK MAGIC 2



CROSS NUMBERS 1

4	+	9	X	2	26
+		÷		+	
8	−	3	X	6	30
÷		X		+	
1	+	5	X	7	42
12		15		15	

CROSS NUMBERS 2

2	X	7	÷	1	14
X		−		+	
6	−	3	X	5	15
+		X		+	
8	÷	4	+	9	11
20		16		15	

CROSS NUMBERS 3

5	−	2	X	7	21
+		+		+	
4	X	9	÷	6	6
X		+		+	
3	+	1	X	8	32
27		12		21	

SUM LOGIC 1

26	14	5	23	18
10	18	29	24	5
21	32	10	4	19
14	19	11	15	27
15	3	31	20	17

SUM LOGIC 2

14	17	29	5	13
19	13	8	23	15
23	2	5	30	18
6	21	33	16	2
16	25	3	4	30

TRIGONS

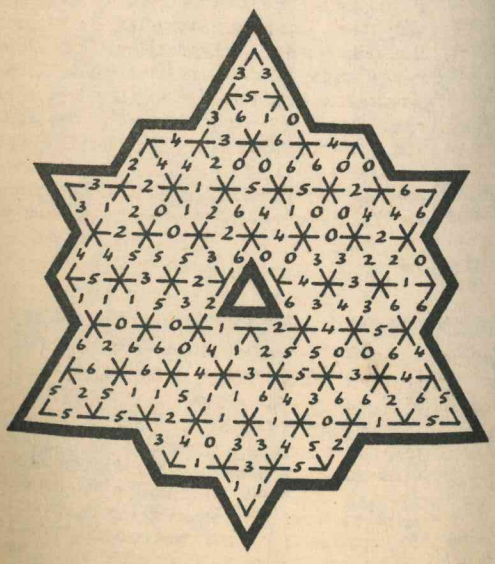
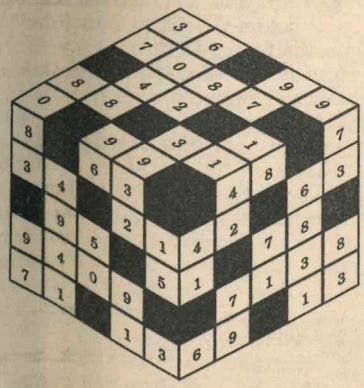


FIGURE LOGIC 9 (CUBIC)



CROSSMATH

6	x	4	1		2	8	+	1	4		6	+	6	1
÷	9	−	4	+	6	0		+	5	9	+	4	−	6
3	+	3	0		−	2	+	4	0	÷	3	+	4	0
	9	+	4	4	7	−		1	+	3	0	1		+
9	x	7	÷	3	+	5	5	÷	1		4	+	3	1
−	9	x	6	+	3	2	−	7		6	+	9	x	8
7	−	6	x	6	0	÷	5		2	+	1	+	6	0
				9	−	6		7	+	9				
9	7	−	1	÷	8		2	+	7	0	−	9	−	4
9	+	8	+	4		5	x	2	4	÷	2	−	6	x
2	1	÷	3		7	+	9	9	−	8	+	3	0	4
−		2	−	1	+	4		+	7	+	2	x	5	
2	8	−	2	+	3	0	÷	4	−		3	4	+	2
9	+	3	+	4	0	÷		5	2	x	4	÷	8	+
7	2	÷	8		7	5	+	9	0		3	8	−	2

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LOGIC PROBLEM 1

Henry arrived just before the White Rabbit, who arrived just before Professor Ames (clue 2). The Queen of Hearts arrived just before Professor Waters, who arrived just before Chris (clue 3). Since there were only four guests, at least two people are mentioned in both clues. The only possibility is that the Queen of Hearts arrived just before Henry Waters, who arrived just before Chris as the White Rabbit, who arrived just before Ames. Henry Waters was not the Caterpillar (clue 1); he was the Mock Turtle. By elimination, Ames was the Caterpillar. Ames is not Susan (clue 1), so she is Dana. By elimination, the Queen of Hearts was Susan. Susan is not Martinez (clue 1); she is Hamamoto, while Chris is Martinez. In summary:

1: Susan Hamamoto, Queen of Hearts
2: Henry Waters, Mock Turtle
3: Chris Martinez, White Rabbit
4: Dana Ames, Caterpillar

LOGIC PROBLEM 2

Three families bought muffins, while the fourth brought them (clue 1). The Stovers bought them, but did not buy pumpkin pie (clue 4); by clue 1, then, they bought peach pie. The family who bought the apple pie did not buy muffins (clue 7), so they are the family that brought them. Their second pie wasn't banana cream or coconut cream (clue 7), pumpkin or peach (clue 1), cherry or lemon meringue (clue 3); it was pecan. They are not the Bakers (clue 1), Cookes (clue 2), or Stovers (clue 4); they are the Burns family. The Cookes then bought muffins, so they bought the pumpkin pie (clue 1). One family bought both cherry and lemon meringue (clue 3); they were the Bakers. They did not bring the cake (clue 3), nor did the Stovers (clue 6); the Cookes brought the cake. The Bakers did not bring the bread (clue 5); they brought the cookies while the Stovers brought the bread. The Stovers did not buy the coconut pie (clue 5); they bought the banana while the Cookes bought the coconut. In summary:

Bakers, cookies, cherry and lemon meringue
Burns, muffins, pecan and apple
Cookes, cake, pumpkin and coconut
Stovers, bread, peach and banana

LOGIC PROBLEM 3

The ribbon on treat 1 was not burgundy (clue 2), navy (clue 4), or white (clue 5); it was yellow. The bird on treat 4 was not the woodpecker (clue 1), nuthatch (clue 4), or jay (clue 5); it was the chickadee. That treat was not the telephone (clue 2), roller skate (clue 3), or elephant (clue 6); it was the stagecoach. By clue 1, then, the woodpecker was on treat 2 and treat 3 was the roller skate. By clue 4, the nuthatch was not on treat 3; it was on treat 1 and the jay was on treat 3. By clue 5, the white ribbon was on treat 4. Treat 1 was not the elephant (clue 4); it was the telephone, while treat 2 was the elephant. By clue 6, the elephant did not have the burgundy ribbon; it had the navy, while the skate had the burgundy. In summary:

1: nuthatch, telephone, yellow
2: woodpecker, elephant, navy
3: jay, roller skate, burgundy
4: chickadee, stagecoach, white

LOGIC PROBLEM 4

The manager needed form XTORT (clue 3). The one who needed form CZ was not the teacher or engineer (clue 2) or the nurse (clue 5); it was the salesperson. By clue 1, the engineer was directly in front of the one looking for form SQEZ, who was directly in front of Moleon. By clue 5, the nurse was directly in front of Proffett. The nurse, then, was not looking for form SQEZ. By elimination, the teacher was. The teacher is not Moleon (clue 1), Ree (clue 3), Nutts (clue 4), or Proffett (clue 5); he is Fitt. Proffett was directly in front of the salesperson needing form CZ (clue 5), so he is not the engineer (clue 1), nor is he the nurse or salesperson (clue 5); he is the manager. By clue 1, neither the engineer nor teacher Fitt were fifth; by clue 5, neither the nurse nor manager Proffett were fifth; the salesperson was fifth. By clue 5, then, Proffett was fourth and the nurse third. By clue 1, the engineer was first, Fitt the teacher was second, and Moleon is the nurse. Moleon did not need form USRP (clue 3); he needed form YME. By elimination, the engineer needed USRP. He is not, then, Ree (clue 3); he is Nutts, while the salesperson is Ree. In summary:

1: P. Nutts, engineer, USRP
2: Ben E. Fitt, teacher, SQEZ
3: Si Moleon, nurse, YME
4: Hy Proffett, manager, XTORT
5: Sal A. Ree, salesperson, CZ

LOGIC PROBLEM 5

The safe came from the Purser's Office, which was not on either the Poop or Bridge Deck (clue 4). It was not a First Class room, so it was not on the Promenade Deck (clue 1). It was not on the Saloon Deck (clue 6), so it was on the Boat Deck. The Docking Bridge was not on the Promenade Deck (clue 1), Bridge or Saloon Deck (clue 6); it was on the Poop Deck. The safe from the Boat deck was either eaten or rusted (clue 6); it was not eaten (clue 2), so it was rusted. The item from the Promenade Deck was not bent (clue 1), intact or buried (clue 5); it was eaten. It was not the grill (clue 1), pedestal or heater (clue 5); it was the newel post. It was from the stateroom, staircase, or dining room (clue 1); it was not from the stateroom (clue 2) or dining room (clue 4), so it was from the staircase. The stateroom was not on the Saloon Deck (clue 3); it was on the Bridge Deck, while the dining room was on the Saloon Deck. The item from the Docking Bridge was not the grill (clue 1) or the heater (clue 6); it was the pedestal. It was not bent (clue 1) or buried (clue 5); it was intact. The item from the dining room on the Saloon Deck was not bent (clue 3); it was buried while, by elimination, the item from the stateroom was bent. The item from the stateroom was not the grill (clue 1); it was the heater, while the grill came from the dining room on the Saloon Deck. In summary:

Staircase, Promenade Deck, newel, eaten
Purser's, Boat Deck, safe, rusted
Dining room, Saloon Deck, grill, buried
Docking Bridge, Poop Deck, pedestal, intact
Stateroom, Bridge Deck, heater, bent

LOGIC PROBLEM 6

The five sisters are listed in clue 1: Jane, the one who ordered the chocolate sundae, the one who played basketball, the one in the Bulls shirt, and the one who planned on the mall. Jenny played tennis (clue 3) and was not going to the mall (clue 7). She was not planning to bake (clue 2) or do homework (clue 8); she was going to babysit or go to the movies. The one with the chocolate sundae was not going to the movies (clue 4) or babysit (clue 5), so Jenny did not get the chocolate sundae; she wore the Bulls shirt. She was not, then, going to the movies (clue 2); she was going to babysit. She got the butterscotch sundae (clue 5). The one who played basketball was not going to do homework (clue 8) or bake (clue 10); she was going to the movies. She wore a Blackhawks shirt (clue 2). She was not Jill (clue 2) or Julie (clue 6); she was Jaclyn. She had a strawberry sundae (clue 9). Jill was going to bake (clue 2), so she ordered the chocolate sundae. By elimination, Julie was going to the mall. Julie wore a Bears shirt (clue 6). By elimination, Jane was going to do homework. She golfed (clue 8). She did not have a pineapple sundae (clue 3); she had walnut, while Julie had pineapple. Julie roller bladed (clue 3), and Jane wore a Cubs shirt (clue 9). By elimination, Jill wore a White Sox shirt and biked. In summary:

Jane, Cubs, golf, homework, walnut
Jill, Sox, bike, bake, chocolate
Jaclyn, Blackhawks, basketball, movie, strawberry
Jenny, Bulls, tennis, babysit, butterscotch
Julie, Bears, roller blade, mall, pineapple

LOGIC PROBLEM 7

Music class was on Tuesday (clue 8). The computer class was not held on either Monday or Friday (clue 1), nor was the algebra class (clue 7); the Monday and Friday classes were, in some order, English and philosophy. By clue 4, then, Vin's class was Wednesday. Monday's student was not Yin (clue 3), Xin (clue 5), or Zin (clue 7); she was Jan Win (clue 2). Friday's student was not Yin (clue 3) or Xin (clue 5); it was Zin. Yin's class wasn't Thursday (clue 6); it was Tuesday, while Xin's was Thursday. By clue 3, Prof. Shrubb's class was Monday and Ken's was Wednesday. By clue 5, Prof. Hedges' class was Friday. Prof. Bush taught neither Tuesday nor Thursday (clue 6); he taught Wednesday. Prof. Thicket did not teach Thursday (clue 7); he taught Tuesday while, by elimination, Prof. Forrest taught Thursday. By clue 1, then, Nan's class was Tuesday and the computer class was Wednesday. By clue 7, the algebra class was Thursday. By clue 6, Len's class was Friday and philosophy was Monday. By elimination, English was Friday and Ian's class was Thursday. In summary:

Mon.: Jan Win, philosophy, Shrubb
Tues.: Nan Yin, music, Thicket
Wed.: Ken Vin, computer, Bush
Thurs.: Ian Xin, algebra, Forrest
Fri.: Len Zin, English, Hedges

MATHEMATICAL DEDUCTION

1. 4: multiply the left by the right, divide by the bottom; 2. 5: subtract the two smaller numbers from the largest; 3. 13: add the even numbers, then subtract the odd; 4. 40: divide the highest number by the lowest, then multiply by the remaining number; 5. 17: start with the smallest number and go clockwise. Multiply the number by 2, then subtract 1.

LOGIC PROBLEM 8

Tuesday's visitor was not the encyclopedia salesman (clue 1), the insurance salesman or the florist (clue 2); one of the meter readers arrived Tuesday. By clue 3, then, no meter reader arrived either Monday or Wednesday. Monday's visitor was not the encyclopedia salesman (clue 1) or the florist (clue 2); he was the insurance salesman. He is not Fred (clue 1), Bob (clue 4), John (clue 5), or Larry (clue 6); he is Harold. By clue 4, Bob did not arrive Tuesday when the first meter reader arrived, Wednesday, or Friday; he arrived Thursday and Bowers arrived Friday. Either the encyclopedia salesman or the florist arrived Wednesday. Larry did not arrive Wednesday (clue 6), so either Fred or John did. Neither Fred (clue 1) nor John (clue 5) is the encyclopedia salesman, so the encyclopedia salesman did not arrive Wednesday; the florist did. He is not Cross (clue 1), Turner (clue 5), or Palmer (clue 7); he is Green. He is not Fred (clue 1); he is John. By clue 1, Fred arrived Tuesday, and Mr. Cross is Harold. By elimination, Larry arrived Friday. By clue 5, Fred is Turner. By elimination, Bob is Palmer. By clue 7, Larry is the gas meter reader, so Fred reads the water meter. By elimination, Bob sells encyclopedias. In summary:

Mon.: Harold Cross, insurance
Tues.: Fred Turner, water meter
Wed.: John Green, florist
Thurs.: Bob Palmer, encyclopedias
Fri.: Larry Bowers, gas meter

LOGIC PROBLEM 9

By clue 1, Ms. Peters attended the day before Wilma was taken, which was the day before the Monkey Ride fan was taken. By clue 10, the Bowl-A-Toss fan was taken the day before Janis, who was taken the day before Lois attended. Since Janis was not taken the same day Wilma was, Ms. Peters did not take the Bowl-A-Toss fan and Lois did not take the Monkey Ride fan. Ms. Peters did not take Janis (clue 4), so Lois did not take Wilma. Lois is not Ms. Peters (clue 10), so Ms. Peters is not mentioned in clue 10. Janis did not like the Monkey Ride (clue 7), so Wilma did not like the Bowl-A-Toss. The three in clue 1, then, are different than the three in clue 10. The Monkey Ride fan was not taken Sunday (clue 7), so the six in order are: Ms. Peters' guest, Wilma, the Monkey Ride fan, the Bowl-A-Toss fan, Janis, and Lois's guest. The Tuesday ride was not the Saucer (clue 2), the Ferris Wheel or Zig-Zag (clue 11); it was the Globe. That fan was not Jim (clue 2), Mike (clue 3), or Billy (clue 9); she was Doris. Sunday's guest was not Billy or Mike (clue 9); he was Jim. Billy and Mike, then, attended on Thursday and Friday, in some order. By clue 3, then, Ms. Anders attended Wednesday, Mike attended Friday, and Billy attended Thursday. Billy's hostess was not Ms. Zerby (clue 1), Yates or Conte (clue 9); she was Ms. Willets. Mike's hostess was neither Yates nor Conte (clue 9); she was Zerby. Ms. Yates was not Jim's hostess (clue 9); she was Janis's, while Ms. Conte was Jim's. By clue 11, the Ferris Wheel and the Zig-Zag were, in some order, the favorites on Saturday and Sunday. By elimination, the Saucer was Wednesday's favorite. Janis was not the Zig-Zag fan (clue 4); she was the Ferris Wheel fan, while Jim liked the Zig-Zag. Beverly did not hostess Wilma (clue 1), Mike (clue 5), Billy or Janis (clue 11); she hostessed Doris. Mike's hostess was not Donna or Patty (clue 5) or Fran (clue 6); she was Carol. Patty did not hostess Wilma (clue 8) or Janis (clue 10); she hostessed Billy. Donna did not hostess Janis (clue 10); she hostessed Wilma, while Fran hostessed Janis. In summary:

Tues.: Beverly Peters, Doris, Globe
Wed.: Donna Anders, Wilma, Saucer
Thurs.: Patty Willets, Billy, Monk. Ride
Fri.: Carol Zerby, Mike, Bowl-A-Toss
Sat.: Fran Yates, Janis, Ferris Wheel
Sun.: Lois Conte, Jim, Zig-Zag

LOGIC PROBLEM 10

Friday's winner was not Orbison (clue 5), Avalon (clue 8), or Presley (clue 11); either Vinton or Jackson won. If Jackson had won Friday, roses would have been Thursday's prize (clue 14). Margot would not be Vinton or Jackson (clue 1) or Avalon (clue 15). Since Vinton didn't win the dinner for two (clue 6), and Margot won the day before Vinton (clue 1), Margot is not Presley (clue 11). Margot, then, would be Orbison. Margot would have won before Thursday (clue 1), but not Monday (clue 13) or Wednesday (clue 15); she would have won Tuesday. Vinton would have won Wednesday (clue 1). Since Jackson did not identify "Love Is All Around" (clue 2), Avalon would not have won Thursday (clue 8); he would have won Monday and "Love Is All Around" would have been Tuesday's song. This, however, contradicts clue 4. Therefore, Jackson did not win Friday; Vinton did. Margot won Thursday (clue 1). Since Vinton did not win the dinner (clue 6), Margot is not Presley (clue 11) or Avalon (clue 15). The roses weren't given away Wednesday (clue 3), so Margot isn't Jackson (clue 14); she is Orbison. Vinton is Curt (clue 5). He didn't win the dinner (clue 6), chocolates (clue 10), the suite (clue 12), or the roses (clue 14); he won the weekend trip. His song was not "Love Is All Around" (clue 2), "Never My Love" (clue 9), "Hello I Love You" (clue 16), or "Young Love" (clue 17); it was "April Love." The winner of "Love Is All Around" was not Jackson (clue 2), Orbison (clue 4), or Avalon (clue 8); it was Presley. Monday's winner was not Presley (clue 8) or Jackson (clue 14); he was Avalon. Presley won Tuesday (clue 8), so Jackson won Wednesday. Jackson won the dinner (clue 11) and Presley won the roses (clue 14). By clue 9, Avalon won with "Never My Love." Orbison didn't win with "Hello I Love You" (clue 13); she won with "Young Love." By elimination, Jackson won with "Hello." Avalon did not win the suite (clue 12); he won the chocolates, while Orbison won the suite. By clue 7, Sean is Presley. Ian is not Avalon (clue 9); he is Jackson, while Fran is Avalon. In summary:

Mon.: Fran Avalon, "Never," chocolate
Tues.: Sean Presley, "Love Is," roses
Wed.: Ian Jackson, "Hello," dinner
Thurs.: Margot Orbison, "Young," suite
Fri.: Curt Vinton, "April," weekend

LOGIC PROBLEM 11

Barry's car is immediately ahead of Barr's (clue 1). Barr's is immediately ahead of the banana car (clue 8), which is not last (clue 6). Gary's car is immediately ahead of Carr's (clue 4). Carr's is immediately ahead of the milk car, which is not last (clue 10). Gary is not Barr (clue 4) and does not own the banana car (clue 6). Carr is not Barry (clue 10). The milk car is not owned by Barry (clue 10). Therefore, Barry's, Barr's, the banana car, Gary's, Carr's, and the milk car are six different cars and they are in order either Gary's, Carr's, the milk car, Barry's, Barr's, the banana car, and the seventh car, or they are Barry's, Barr's, the banana car, Gary's, Carr's, the milk car, and the seventh car; Barry and Gary are, in some order, first and fourth; Barr and Carr are, in some order, second and fifth, and the banana car and the milk car are, in some order, third and sixth. By clue 7, Harry Garr's car is neither third nor seventh; it is sixth and the log car is seventh. By clue 5, Farr owns the coal car, which is ahead of Larry's car, which is not seventh. The gray car is ahead of the coal car (clue 1). Farr's car is not second, since either Barr's or Carr's is, nor is it third, since either the banana or milk car is; it is fourth, while Larry's is fifth and the gray car is first, second, or third. The gray car is not Barry's or Barr's (clue 1) or the banana car (clue 6), so those are not the first three cars; Gary's is first, Carr's second, the milk car third, Barry's fourth, Barr's fifth, and the banana car is sixth. Larry Barr's car is not the oil (clue 5) or chemicals (clue 8); it is the orange juice. The first two cars are, then, the oil and chemicals. Neither is then gray (clue 3); the third car is gray. Jerry's car is not seventh (clue 5) or third (clue 9); it is second. It is not oil (clue 3); it is chemicals while the oil car is first. The white car is not second or fourth (clue 3), first, six, or seventh (clue 6); it is fifth. The black car is, then, seventh (clue 6). The yellow is next to the orange (clue 2), so they are, in some order, first and second. Barry's car is not green (clue 10); it is maroon, and the green car is sixth. Parr, the newest member, does not own the log car (clue 9) and is not Gary (clue 4); he owns the milk car. He is not Perry (clue 2); he is Cary. By elimination, Perry owns the log car. Perry is not Mahr (clue 2); he is Klar, while Mahr is Gary. Gary does not own the yellow car (clue 2), so he owns the orange and the yellow is second. In summary:

1: Gary Mahr, orange oil
2: Jerry Carr, yellow chemicals
3: Cary Paar, gray milk
4: Barry Farr, maroon coal
5: Larry Barr, white orange juice
6: Harry Garr, green banana
7: Perry Klar, black log

MATH MANIA

Since there are twice as many gumdrops as yellow candies and twice as many jelly beans as blue candies, there are twice as many gumdrops and jelly beans as there are yellow and blue candies. Using a capital letter to represent the color and lowercase letter to represent the candy, the equation is:

Yg + Bg + Wg + Yj + Bj + Wj = 2(Yg + Bg + Yj + Bj + Ym + Bm), or

Yg + Bg + Wg + Yj + Bj + Wj = 2Yg + 2Bg + 2Yj + 2Bj + 2Ym + 2Bm.

Removing duplicates from each side leaves:

Wg + Wj = Yg + Bg + Yj + Bj + 2Ym + 2Bm.

There are 9 yellow and blue gumdrops and yellow and blue jelly beans. So

Yg + Bg + Yj + Bj =9. Therefore, replacing in the above equation,

Wg + Wj = 9 + 2Ym + 2Bm.

There are twice as many total white candies as there are total mints. That equation is: Wg + Wj + Wm = 2(Ym + Bm + Wm), or

Wg + Wj + Wm = 2 Ym + 2Bm + 2Wm.

Wg + Wj = 2 Ym + 2Bm + Wm. So

2 Ym + 2Bm + Wm = 9 + 2Ym + 2Bm.

Wm = 9

There are then 9 remaining white mints, so you have eaten one.

LOGIC PROBLEM 12

The four violinists are Eric, Ms. Baker, the locksmith, and the 8-year player (clue 1). The two violists are Blythe Dupree and the gardener (clue 2). The two bass players are Alice and the zookeeper (clue 4). By clue 4, the possibilities are Carter has 13 years experience, while Alice and the zookeeper have 6 and 7 in some order, or Carter has 15 years experience, while Alice and the zookeeper have 6 and 9 years; in either case, either Alice or the zookeeper have 6 years experience. By clue 12, Mr. Evans has 6 years experience and is in the Baroque Quintet; he is, then, the zookeeper, while Alice has either 7 or 9 years, and is in the Classical Quintet. Clue 6 mentions one occupation for each of the instruments: plumber, mechanic, hairstylist, and teacher. The janitor and writer play the same instrument (clue 13), so they share that instrument with one of the people in clue 6, and play the violin. Bass player Alice, violist Blythe, and one of the cellists are also mentioned in clue 6. Optometrist Dan (clue 11), then, is the second cellist. The other cellist is also a man (clue 3). Neither bass player is mentioned in clue 5, so a violist, cellist, and violinist are; Mr. Davis plays the cello. He is not Andrew (clue 5), Ben, or Dan (clue 7); he is Chad. Ms. Atkins is not a violinist (clue 10), nor is she Alice (clue 7); she is the gardener who plays viola. By the initials so far and clue 7, Dan is not Brown, Cohen, or Carter. He is not Erdman (clue 8); he is Anderson. He played 7 years and the janitor 14 (clue 13). Since Dan is Anderson, Denise is not Atkins (clue 7). By clue 7, she is not Brown, Cohen, or Carter; she is Erdman. She has 11 years (clue 8) and is the locksmith, so the teacher has 9. By clue 4, Alice has 9 years, so she is the teacher, and Carter has 15 years experience, so he is Eric. By clue 14, Denise is in the Classical. Since Alice has 9 years, Brown does not have 8 (clue 5); Alice is Brown. By elimination, the 8-year violinist is Cohen. Elke has 10 years (clue 5). The violinist janitor with 14 years is, then, Ms. Baker. Carter isn't the writer (clue 4), so Cohen is, while Carter is mentioned in clue 6. Ms. Atkins and Ms. Baker are, in some order, Carol and Elke; since Elke has 10 years, Carol is Ms. Baker with 14, and Elke is Ms. Atkins. Since Elke is Atkins, Evans is not Andrew (clue 7); he is Ben, while Cohen is Andrew. Elke, Carol, and Chad are all in the same quintet (clue 5). The plumber is in the same quintet (clue 9). They are not, then, in the Classical with Alice and Denise; they are in the Baroque. The other violist Blythe and the other cellist Dan are, then, in Classical. By elimination, the plumber in Baroque is Eric, while Andrew is in Classical. Chad and Blythe are, in some order, the hairstylist and the mechanic and have, in some order, 12 and 13 years. Since they are in different quintets, the hairstylist does not have 13 years (clue 6); he or she has 12 years and the mechanic 13. Denise with 11 years is in Classical, so the hairstylist is also in Classical (clue 6); she is Blythe, while Chad is the mechanic. In summary:

Bass Alice Brown, teacher, 9, Classical
Bass Ben Evans, zookeeper, 6, Baroque
Violist Blythe Dupree, hairstylist, 12, Classical
Violist Elke Atkins, gardener, 10, Baroque
Cellist Dan Anderson, optometrist, 7, Classical
Cellist Chad Davis, mechanic, 13, Baroque
Violinist Eric Carter, plumber, 15, Baroque
Violinist Carol Baker, janitor, 14, Baroque
Violinist Denise Erdman, locksmith, 11, Classical
Violinist Andrew Cohen, writer, 8, Classical

LOGIC PROBLEM 13

The $600 pair of boots was not bought Monday or Tuesday (clue 1), or Thursday (clue 5). They were not bought by Henry (clue 1), Edgar (clue 2), Greg (clue 5), or Curtis (clue 6); they were bought by either Frank or Dave. Neither Dave (clue 4) nor Frank (clue 7) picked up his boots on Saturday, so the $600 boots were not picked up Saturday. They were, then, picked up either Wednesday or Friday. If they had been picked up Wednesday, the tan boots would have been picked up Tuesday, and Mr. Landon would have picked his up Monday (clue 1). Dave would not have bought the $600 boots (clue 8); Frank would have bought them. By clue 7, then, Jameson would have bought Thursday and the oilman Friday. By clue 1, the businessman would have picked up Saturday. Curtis would not be the businessman (clue 6). However, this leaves no placement for Curtis and the cordovan boots (clue 3). Therefore, the $600 boots were not bought Wednesday, so they were bought Friday. By clue 1, the tan pair were Thursday and Mr. Landon was Wednesday. The $600 pair were not bought by Frank (clue 7); they were bought by Dave. Curtis didn't buy the tan boots (clue 6); by clue 3, Curtis picked up on Wednesday and the cordovan boots were picked up Monday. Frank did not get the cordovan (clue 3) so, by clue 7, Frank picked up on Thursday, Jameson on Friday, and the oilman Saturday. By clue 1, the businessman picked up Tuesday and Henry Monday. Greg did not pick up Tuesday (clue 6); he picked up Saturday, while Edgar picked up Tuesday. By clue 3, then, the singer picked up Friday and Mills Saturday. Mr. Koji is neither Frank (clue 5) nor Edgar (clue 9); he is Henry. Curtis's boots were not black (clue 6) or burgundy (clue 8). The gray boots cost more than Frank's tan boots (clue 5), while Curtis's boots cost less than Frank's (clue 6), so Curtis did not buy the gray boots. By elimination, he bought the brown boots. Edgar's boots were neither burgundy (clue 2) nor black (clue 9); they were gray. Frank did not buy the $500 boots (clue 5). By clue 4, the $500 pair were not Dave's, Curtis's, or Greg's; they were either Henry's or Edgar's. If they were Edgar's, Frank and Henry would be, in some order, the athlete and Novello (clue 4); Henry would be the athlete and Frank would be Novello. Frank's boots would have cost $400 (clue 5). This, however, would contradict clue 4. Therefore, Edgar did not buy the $500 boots; Henry did. By clue 4, then, Edgar is Novello and Frank is the athlete. By elimination, Frank is Ibanez. Greg's boots cost $400 and the rancher's cost $300 (clue 5). Henry, then, is not the rancher, so he is the TV host, while Curtis is the rancher. Edgar did not buy the $350 boots (clue 2), so Frank did. Edgar then paid $450 (clue 5). The burgundy boots were, then, $400 (clue 2), so the black were $600. In summary:

Mon.: Henry Koji, TV host, cordovan, $500
Tues.: Edgar Novello, businessman, gray, $450
Wed.: Curtis Landon, rancher, brown, $300
Thurs.: Frank Ibanez, athlete, tan, $350
Fri.: Dave Jameson, singer, black, $600
Sat.: Greg Mills, oilman, burgundy, $400

WHAT'S THE ORDER?

1256. A and B, which have only the 7 in common, recieved an O and an X. To have a 4-digit answer, then, both 1 and 6 are in the answer number, while the digit that recieved the O in A is different than the one that received the X in B. 7, then, which is in both, is not in the answer. C's two marks are, then, for the 1 and the 6, so the answer number doesn't contain either a 3 or an 8. By A, either 2 or 4 is in the answer, but not both, so one of the marks given to D is because of one of these digits and the other for the 1; 9 is not in the answer. The answer digits, in some order, are 1, 2 or 4, 5, and 6. By B, then, 5 is the digit second from the right. Either 1 or 6 is in its correct position. in C. Suppose 1 is the digit correctly positioned in that arrangement. The 6 in C would be in the wrong position, so it would be the first digit in the answer, and the answer would be 6152 or 6154. This, however, would leave no digit with the X score in D. So 6 is the digit that accounts for C's X score; it is the rightmost digit in the answer, and 1 is not the digit second from the left. 1 is then the first digit in the answer. By D, then, the digit with the X in D is the second digit in the answer; it is the 2.

ADDITION LOGIC 1

By M+A+M+A=32, M and A are 7 and 9, in some order. S+A+L+T=17, and L+O+S+T=10, so A is 7 more than O. A, then, is 9, O is 2, and M is 7. By M+O+L+D=21, subtracting M and O leaves L+D=12. By L+O+S+T=10, L is 1, 3, or 4. D, then, is 8 and L is 4, while S and T are, in some order, 1 and 3. By D+U+S+T=18, since S+T=4, U is 6. B+A+S+S=16, so B+S+S=7. Since either S or T is 1, B=5, S=1, and T=3. In summary: S=1, O=2, T=3, L=4, B=5, U=6, M=7, D=8, A=9.

ADDITION LOGIC 2

R+A+I+N=27 and H+A+I+R=19, so N=H+8; N is 9 and H is 1. C+H+A+T=18 and E+A+C+H=12, so T=E+6; T is 8 and E is 2. By C+A+L+L=15, L is 3, while C and A are, in some order, 4 and 5. R and I are, by elimination, 6 and 7 in some order. R+A+I+N=27. Since R+I=13 and N=9, A=5. C, then, is 4. By I+N+C+H=21, I=7, while R=6. In summary: H=1, E=2, L=3, C=4, A=5, R=6, I=7, T=8, N=9.

SENTENCE TEASER

1. false: to be selected for the championship, one must win more than three games (B), but only players over 16 won more than three games (D); 2. true; 3. false: to be selected for the championship a player must win more than three games (B) and to win more than three games a player must be over 16 (D), while to play in the doubles a player must be under 16 (C); 4. true: by B, those selected had won more than three matches, but it does not state that every player who won more than three was selected.

LOGIC PROBLEM 14

The identical coupons were for candy and cookies (clue 3), towels and tape (clue 4), and toothpaste (clue 5). Sales spent $4 on candy (clue 9); with the limit being five or fewer items, and each item divisible by 25¢ and costing no more than $3 (clue 18), she bought either 2 boxes at $2 each or 4 at $1 each. Candy cost an even dollar amount, so, by clue 7, the total for toothpaste at $7 less was an even dollar amount and each of the 11 tubes cost an even dollar amount. If toothpaste cost $2 per tube, clue 7 totals would be $22 for toothpaste, $17.50 for tape, and $29 for candy; with $2.50 for soap (clue 9) and $6.00 for lipstick (clue 11), the subtotal would be $77, contradicting clue 19. Therefore, toothpaste cost $11 at $1 per tube, tape cost $6.50, and candy $18 (clue 7). With the limit of five items, no more than 25 identical items were sold. Only 25¢ and 50¢ can be divided evenly into $6.50 (clue 18); at 25¢, it would take 26 items, so tape cost 50¢ per roll, and 13 rolls were sold. By clue 4, Yolanda bought four rolls of tape for $2, and Sally bought one for 50¢, while Yolanda spent $1.50 on towels. Again noting the five-item limit, Price bought three tubes of toothpaste for $3, and Yolanda bought one for $1 (clue 5). If Clyde were Price, he would have spent $6 on candy (clue 13), and Charger would have spent $3 (clue 3), making candy $1 per box (clue 9). Clyde, then, would have bought six boxes — one over the limit. Therefore, Clyde is Storehouse, and Gilbert is Price. Gilbert spent $1.50 on towels (clue 13). Ms. Buyer bought three tubes of toothpaste for $3 (clue 6); Yolanda bought one, so she is not Buyer. If Yolanda were Sales, she would have spent $4 on candy (clue 9), Gilbert would have spent $8 (clue 5), as would Buyer (clue 6), which would total over $18, so Yolanda is not Sales; she is Charger. Brett is not Sales (clue 17), so she is Buyer, and Sally is Sales. If Yolanda had spent $1 on candy, Clyde (clue 3), Gilbert (clue 5), and Brett (clue 6) each would have spent $2, bringing the total (with Sally's $4) to only $11; if Yolanda had spent $2, Clyde, Gilbert and Brett each would have spent $4 on candy, bringing the total up to the $18 spent. Clyde, then, bought two tubes of toothpaste for $2 (clue 13), and Sally bought the other two for $2. The person who spent $1 on towels spent the least (clue 15), so wasn't Gilbert or Yolanda; Brett spent more than Clyde (clue 2), and Sally bought more towels than Yolanda (clue 4), so Clyde spent the least. The towel totals of $1 and $1.50 are divisible only by 25¢ and 50¢; 25¢ cost would require six items to total $1.50, so each roll cost 50¢. Gilbert and Yolanda each bought three rolls, Clyde bought two, and Sally bought four or five (clue 4). Clyde's sixth item wasn't meat (clue 8), laundry soap (clue 9), or greeting cards (clue 15). Had he spent $6 on lipstick and $3 on cookies (clue 11), plus at least 50¢ on tape, his total would have been $16.50, which is more than a woman's $16 bill (clue 8); Clyde bought vitamins and 11 total items (clue 10). No two bought the same number of items (clue 1); with Clyde's 11 being the fewest (clue 2), the others bought 12, 13, 14, and 15 items to total 65 (clue 19). Brett bought 15 items (clue 2). Sally Sales bought laundry soap for $2.50 (clue 9). Brett or Yolanda bought meat (clue 8), and meat cost the same as cookies (clue 16); with known amounts bringing Yolanda's subtotal to $6.50, if she bought meat, she'd have spent $9.50 on meat and cookies to total $16 (clue 8); she bought two or four boxes of cookies (clue 5) and up to five cans of meat, but no number from 3-9 can be evenly divided into $9.50 by 25¢ (clue 18), so Brett bought meat and spent $16 (clue 8). Clyde spent $3.50 less than Brett (clue 2), so he spent $12.50. If Gilbert had paid $6 for lipstick and $3 for cookies (clue 11) plus at least 50¢ for tape, his total would have been $18, and Yolanda would have spent the most (clue 15) — at least $18.50. With these four totals, only $10 is left for Sally's bill (clue 19). Since Clyde spent the least, Gilbert bought two boxes of greeting cards and spent the most (clue 15), and Yolanda spent $6 on lipstick and $3 on cookies, for a total of $15.50. Clyde (clue 3) and Gilbert (clue 5) each bought half as many cookies as Yolanda, so each man spent $1.50 on cookies, and Brett spent $3 (clue 6). If Clyde's 11 items included four boxes of candy, he'd have bought one box of cookies for $1.50 and one roll of tape for 50¢; his bottle of vitamins would cost $3.50, which is over the $3 maximum (clue 18); Clyde bought only two boxes of candy for $4, so candy cost $2 a box; Yolanda bought one box, and the others each bought two boxes for a total of nine. Cookies and meat cost an amount divisible by $1.50 (clue 16); since Brett spent the same on tape and towels (clue 14), her meat total was an even dollar amount (clue 8), i.e. $3 or $6; at $6, she'd have spent $16 without towels or tape, so Brett spent only $3 for meat plus $3 for towels and tape in equal amounts (clue 14) — $1.50 on three rolls of towels and $1.50 on three rolls of tape. Brett's 15 items included equal numbers of cookies and meats plus 11 other items; therefore, she bought two boxes of cookies for $3 at $1.50 per box, and two cans of meat at $1.50 per can. Yolanda, then, bought two boxes of cookies, and Gilbert and Clyde each bought one. Clyde, then, bought three rolls of tape for $1.50 to bring his total to 11 items; the subtotal for his known purchases was $10, so his bottle of vitamins cost $2.50. By elimination, Gilbert bought the final two rolls of tape for $1. Gilbert, then, bought 13 items. Yolanda bought more items than Sally (clue 12), so Sally bought 12, and Yolanda 14 items; Yolanda, then, bought three tubes of lipstick for $2 each. Brett and Sally had even dollar totals (clue 17), Yolanda and Clyde did not; to bring the final total to $75 (clue 19), Gilbert's total was an even dollar amount. Gilbert's known costs subtotaled $11; he spent at least $1 more than Brett's $16 and no more than $3 per box of greeting cards (clue 18), so his total was no more and no less than $17, so Gilbert spent $6 on 2 boxes of greeting cards at $3 each. By elimination, Sally spent $14 (clue 19), leaving $5 for her cookies and towels; if she spent $1.50 on cookies, she'd have overspent on towels, so she bought two boxes of cookies for $3 and 4 rolls of towels for $2, plus just one box or bottle of laundry soap. With the eight boxes of cookies for $12 plus 15 rolls of towels for $7.50 and nine special items for $20, the totals are 65 items for $75. In sum:

- Brett Buyer: 2 candy $4, 2 cookies $3, 3 tape $1.50, 3 towels $1.50, 3 toothpaste $3, 2 meat $3, 15 total items $16.
- Yolanda Charger: 1 candy $2, 2 cookies $3, 4 tape $2, 3 towels $1.50, 1 toothpaste $1, 3 lipstick $6, 14 total items $15.50.
- Gilbert Price: 2 candy $4, 1 cookie $1.50, 2 tape $1, 3 towels $1.50, 3 toothpaste $3, 2 greeting cards $6, 13 total items $17.
- Sally Sales: 2 candy $4, 2 cookies $3, 1 tape 50¢, 4 towels $2, 2 toothpaste $2, 1 laundry soap $2.50, 12 total items $14.
- Clyde Storehouse: 2 candy $4, 1 cookie $1.50, 3 tape $1.50, 2 towels $1, 2 toothpaste $2, 1 vitamins $2.50, 11 total items $12.50.
- TOTALS: 9 candy ($2 each) $18, 8 cookies ($1.50 each) $12, 13 tape (50¢ each) $6.50, 15 towels (50¢ each) $7.50, 11 toothpaste ($1 each) $11, 9 special items $20.

LOGIC PROBLEM 15

The digits are 0 through 9, and each day's # is higher than the day before (clue 7). The first digit of each # is, then, from day 1 to day 10: 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. The third digit of the day 10 # is not 9 (clue 1), 2, 4, 5, or 6 (clue 4), or 3 (clue 6); it is 0, 1, 7, or 8. The third digit of the day 1 # is 2, 4, 5, or 6 (clue 4). It is not 5 (clue 6). The day 10 digit minus the day 1 digit equals 9 (clue 5). The third digit of the day 1 # then is 2, and the third digit of the day 10 # is 1. The second digit of the day 1 # is not 0 (clue 1), 2, 4, 5, or 6 (clue 4), or 9 (clue 6). The second digit of the day 10 # is not 1 or 9 (clue 1), 3 or 5 (clue 6). The subtraction of the second digit of day 1 from the second digit of day 10 required a carryover from the first digit 9, and carried over to the subtraction of the third digits, and resulted in 4 (clue 5). The second digit of the day 10 # is then 2, and the second digit of the day 1 # is 7. The day 5 # is 159 higher than the day 4 # (clue 3). 4-3=1, so there is no carryover from the first digit to the second digit in the subtraction; the second digit of the day 5 # is either 5 or 6 higher than the second digit of the day 4 #; the second digit of the day 5 # is 5, 6, 7, 8, or 9, while the second digit of the day 4 # is 0, 1, 2, 3, or 4. The second digit of the day 4 # is not 3 (clue 1) or 2 (clue 7). The second digit of the day 5 # is not 7 (clue 7) or 9 (clue 6). By the subtraction, the second digit of the day 5 # is not 8 (no possibility for the day 4 # would leave 5) and, by the same reasoning, the second digit of the day 4 # is not 4. The third digit of the day 5 # minus the third digit of the day 4 # equals 9. The third digit of the day 5 # is not 4 (clue 1), 9 (clue 6), 1 or 2 (clue 7). The third digit of the day 4 # is not 9 (clue 6). The third digit of the day 5 # is, then, smaller than the third digit of the day 4 #, and that subtraction requires a carryover from the second digit. The second digit of the day 5 # is, then, 6 higher than the second digit of the day 4 #. The second digit of the day 5 # is then 6 and the second digit of the day 4 # is 0. The day 8 # is 25 higher than the day 7 # (clue 2), so there is a carryover from the first digit to the second digit in the subtraction: The second digit of the day 8 # is lower than the second digit of the day 7 #. Neither of these second digits are 0, 2, 6, or 7 (clue 7). The second digit of the day 8 # is not 3 (clue 6). The only possibility, then, is that the second digit of the day 8 # is 1 and the second digit of the day 7 # is 9 (clue 6). The third digit of the day 5 # minus the third digit of the day 4 #, with a carryover from the second digit, equals 9 (clue 3). The digit from the day 5 # is then lower than the digit from the day 4 #. The day 5 digit is not 4 or 6 (clue 1), 1 or 2 (clue 7). The day 4 digit is not 3 or 0 (clue 1), 9 (clue 6), 1 or 2 (clue 7). It is not 6, or all three of the 6s would be in a four-day stretch, contradicting clue 6. The third digit of the day 5 # is then, either 3 or 7, and the third digit of the day 4 # is either 4 or 8. Since neither of those days then contain the digit 5, by clue 6, three of the days 6, 7, 8, and 9 contain a 5, one as the second digit and one as the third. The only # that can contain the 5 as the second digit is day 9. The digit 4 appears as a third digit before it appears as a second (clue 4), so it appeared as the third on day 2, 3, or 4. If it were the third digit on day 4, it would be the second digit on day 6 (clue 4); however, it would then appear on three consecutive days, contradicting clue 6. The third digit on day 4, then, is 8 and the third digit on day 5 is 7. By clue 6, since the three 4s did not appear over a 4-day stretch, it is the second digit on day 6 and the third digit on day 2. The remaining second digits (clue 7) are 3 and 8, and the remaining days for these #s are day 2 and 3. The remaining third digits are 0, 3, 5, 6, and 9, and the remaining days are day 3, 6, 7, 8 and 9. The day 8 # (71x) minus the day 7 # (69x) equals 25 (clue 2). The third digit of day 8 is then 5 and the third digit of day 7 is 0. By clue 6, then, the third digit of the day 9 # is 9. The third digit 6 is on day 3 (clue 4). By elimination, the third digit 3 is on day 6. By clue 6, then, the second digit 3 is on day 3, while the second digit 8 is on day 2. In summary:

Day 1: 072	Day 4: 308	Day 7: 690
Day 2: 184	Day 5: 467	Day 8: 715
Day 3: 236	Day 6: 543	Day 9: 859
		Day 10: 921

WORD ARITHMETIC

	0	1	2	3	4	5	6	7	8	9
1.	P	R	O	U	D/	G	E	N	T	S
2.	U	S	E	D-	C	A	R/	L	O	T
3.	G	O	L	D/	C	H	A	I	N	S
4.	M	Y/	W	I	L	D/	P	A	S	T
5.	P	S	A	L	M/	E	I	G	H	T
6.	L	U	S	H/	F	I	N	E	R	Y
7.	F	R	A	G	I	L	E/	T	O	Y
8.	H	I	S/	C	U	T	E/	D	O	G
9.	C	R	A	M	P	E	D/	H	U	T
10.	M	O	N	E	Y/	T	A	L	K	S
11.	L	A	T	E/	S	P	R	I	N	G
12.	F	O	R	G	I	V	A	B	L	E
13.	T	H	E/	J	U	N	K/	B	A	G
14.	L	O	N	G/	S	T	R	E	A	K
15.	S	A	M	E/	O	L	D/	C	R	Y
16.	R	E	T	A	I	L/	S	H	O	P
17.	W	A	I	T	E	R'	S/	J	O	B
18.	P	I	C	K	S/	B	A	N	J	O
19.	S	M	O	L	D	E	R	I	N	G
20.	T	U	M	B	L	E/	D	O	W	N
21.	O	L	D/	W	A	R	S	H	I	P
22.	Y	O	U/	W	A	T	C	H/	M	E
23.	W	I	S	E/	P	A	T	R	O	N
24.	J	O	V	I	A	L/	C	H	E	F
25.	N	E	W/	S	T	A	D	I	U	M
26.	I	N	C	L	U	D	E/	T	A	X
27.	N	E	I	G	H	B	O	R	L	Y
28.	C	O	W/	P	A	S	T	U	R	E
29.	F	L	I	M	S	Y/	C	O	A	T
30.	P	R	E	C	L	U	S	I	O	N
31.	O	R	G	A	N/	M	U	S	I	C
32.	I/	S	P	E	D/	A	L	O	N	G
33.	S	U	B	T	L	E/	G	R	I	N
34.	M	I	S	T	Y/	C	L	O	U	D
35.	U	L	T	R	A	S	O	N	I	C
36.	M	A	T	U	R	E/	B	O	Y	S
37.	H	E	F	T	Y/	G	U	A	R	D
38.	D	A	R	K/	C	L	O	S	E	T
39.	T	U	R	N/	O	F/	A/	K	E	Y
40.	P	A	T	C	H	Y/	S	N	O	W
41.	G	O	E	S/	A	D	R	I	F	T
42.	T	R	U	C	K/	P	E	D	A	L
43.	G	O	E	S/	B	Y/	T	R	A	M
44.	C	U	P	S/	O	F/	W	I	N	E
45.	B	A	R	L	E	Y/	S	O	U	P

FIGURE LOGIC HELPS

FIGURE LOGIC 1

The first digit of 25-Across is 1 and the second digit of 25-Across is 1 (clue 26-Down).

FIGURE LOGIC 2

The first digit of 31-Across is 1 or 2, and is an even number (clue 20-Down) so it is 2. Since 20-Down is twice 5-Down and the last digit of 5-Down is not 1, the last digit of 5-Down is 6.

FIGURE LOGIC 3

By clue 4-Down, the last digit of 11-Across is either 0 or 5. By clue 26-Down, then, 11-Across is 10.

FIGURE LOGIC 4

By clue 20-Across, the last digit of 20-Across is 0. By clue 14-Down, the last digit of 14-Down is 2. By clue 20-Down, the first digit of 20-Down is 1. Therefore 20-Across is 120.

FIGURE LOGIC 5

The first digit of 1-Down is 1 (clue 6-Down). The first digit of 17-Across is 1, so the last digit of 14-Down is 7 (clue 11-Down) and the last digit of 26-Down is 3 (clue 14-Down). Then the last digit of 1-Across is 3; 1-Across is 13.

FIGURE LOGIC 6

The first digit of 12-Down is 1.

FIGURE LOGIC 7

The first digit of 9-Across is 6 or 8. By clue 4-Down, then, the first digit of 9-Across is 6. By clue 5-Down, the second digit of 12-Across is 0 or 5, so the first digit of 12-Across is 6 (clue 12-Across). By clue 10-Down, the second digit of 9-Across is 8; 9-Across is 68.

FIGURE LOGIC 8

The first digit of 23-Across is 1, so 10-Down is 13 (clue 20-Down).

FIGURE LOGIC 9

23-A is 97.

FIGURE LOGIC 10

17-Across is 12.

CROSS SUMS HELPS

1. 6849	6. 9843	11. 7689	16. 12376
2. 869	7. 91785	12. 87495	17. 24516
3. 6721	8. 48936	13. 13879	18. 3127
4. 8972	9. 52631	14. 927	19. 2176
5. 61423	10. 4712	15. 6812	20. 125

DEDUCTION PROBLEM 1

The boy's photos are on consecutive pages (clue 4). By clue 2, then, page 1 is a boy's photo, page 2 is the 7-year-old boy's photo, page 3 is Gina's photo, and page 4 is the scout's photo. The scout, then, is Vicki. Gina is in a choir robe (clue 1). Gina is 9, and the 7-year-old is in a soccer uniform (clue 3). Teddy is 7 (clue 1), so he is in the soccer uniform. By elimination, Bill is on page 1 in the Halloween costume. He is not 10 (clue 4); Vicki is 10 while Bill is 8. In summary:

1: Bill, 8, Halloween
2: Teddy, 7, soccer
3: Gina, 9, choir
4: Vicki, 10, scout

DEDUCTION PROBLEM 2

Each of the six men chose a different number of the 6 items (clue 1). The one who chose all 6 was not Bill or Fred (clue 3), Al, Carl, or Don (clue 5); Ed chose all 6. By clue 3, then, Carl chose 5 items, Bill chose 3, and Fred chose one. The 1 item Carl did not choose was pickles (clue 5), so he had all 5 other items. One item was chosen by only one person (clue 1); that item was the only item not chosen by both Ed and Carl, so it was pickles. Al, Bill, Carl (clue 5), and Ed all had cheese; by clue 4, then, they were the only four to have cheese, five people had mayo, and all six people had ham. By clue 2, then, two people had mustard and three had beef. The ham was Fred's 1 item. The other five all had mayo. We then have Ed's 6 items, Carl's 5 items, Bill's 3 items, Fred's 1 item, 3 items for Al, and 2 items for Don. Al, then, was the one who had 4 items (clue 1); he was the third to have beef. In summary:

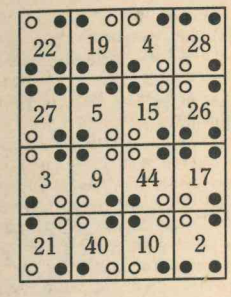
Ed: cheese, ham, mustard, beef, mayo, pickles
Carl: cheese, ham, mustard, beef, mayo
Al: cheese, ham, mayo, beef
Bill: cheese, ham, mayo
Don: ham, mayo
Fred: ham

DEDUCTION PROBLEM 3

By clue 1, Jim is Anderson and he did not report on Kennedy. Since they have either both or no initials in common, he did not report on Harry Truman, Andrew Jackson, or John Adams (clue 5); he reported on Thomas Jefferson. Turner is not Jay (clue 3) or Teresa (clue 4). Howard Turner would have no president to report on (clue 5), so Turner is Ann. Ann Turner did not report on John Kennedy (clue 5). By clue 1, then, she received a B. By clue 3, Jay received an A and the one who reported on Andrew Jackson received a B+. By clue 1, Jay reported on John Kennedy. He is not then Kline (clue 5), nor is he Jones (clue 4); he is Abbott. Since Jim did not report on Jackson, he got at most a C+; by clue 2, then, he got a C+ and Teresa got a C. By elimination, Howard reported on Jackson and got the B+. Howard's last initial must match an initial of Andrew Jackson (clue 5), so his last name starts with J and he is Jones. By elimination, Teresa is Kline. By clue 5, Ann reported on John Adams while Teresa reported on Harry Truman. In summary:

Jim Anderson, Thomas Jefferson, C+
Ann Turner, John Adams, B
Teresa Kline, Harry Truman, C
Jay Abbott, John Kennedy, A
Howard Jones, Andrew Jackson, B+

SUM SPOTS



HEXAGONY

64	-20	-2	58
10	46	28	16
34	22	4	40
-8	52	70	-14

SQUARE LOGIC

1	28	27	10	9	36
35	26	25	12	11	2
3	22	21	16	15	34
33	24	23	14	13	4
20	6	8	29	31	17
19	5	7	30	32	18

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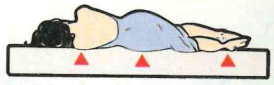

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